

REDACTED VERSION

**OPERATION AND MAINTENANCE REPORT  
FOURTH QUARTER 2013**

**DELATTE METALS SUPERFUND SITE  
AGENCY INTEREST NO. 2328**

**DATE SUBMITTED:  
FEBRUARY 7, 2014**

**OPERATION AND MAINTENANCE REPORT  
FOURTH QUARTER 2013  
AGENCY INTEREST NO. 2328**

**PREPARED FOR**

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A	FIELD DATA SHEETS & WASTE MANIFESTS
B	LABORATORY ANALYTICAL REPORT
C	HISTORICAL CONCENTRATION VS. TIME GRAPHS
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## 1.0 INTRODUCTION AND BACKGROUND

SEMS, Inc. (SEMS) was selected by the Louisiana Department of Environmental Quality (LDEQ) for the continued Operations and Maintenance (O&M) at the Delatte Metals Superfund Site, in Tangipahoa Parish, Ponchatoula, Louisiana in accordance with the bid specifications associated with state solicitation number 3000002194 and purchase order number 2000060454. The Delatte Metals Superfund Site is currently under periodic O&M, including groundwater and surface water sampling to determine if constituents of concern (COCs) remediated at the site are in a declining condition and to ensure that COCs are not migrating horizontally past the permeable reactive barrier (PRB) or vertically into lower water bearing zones. This report summarizes the site activities performed during the current quarter associated with the onsite and offsite water supply wells. A map showing the locations of the onsite and offsite water supply wells is presented as Figure 1. A brief status and history of the site are provided below.

The physical location of the site is approximately 5.5 miles south-southeast of Hammond, Louisiana, 1.5 miles southeast of Ponchatoula, Louisiana, and adjacent to the new Delatte Recycling, LLC (19113 Weinberger Road, Ponchatoula, Louisiana). The site lies to the north of Weinberger Road, in a rural area with numerous residences within a one-mile radius of the site. The latitude and longitude for the site are 30°25'16"N and 90°24'39"W, respectively. The site is bounded by Weinberger Road followed by residences to the south, drainage ditches and residences to the north and east, and Selsers Creek and residences to the west.

According to previous reports, the 19-acre Delatte Metals Superfund Site includes the Delatte Metals, Inc. facility and the abandoned North Ponchatoula Battery Facility which performed identical lead salvage operations and generated the same type of waste. Delatte Metals, Inc., which operated a lead smelter to recover additional lead materials, began operation in the early 1970's as the Fuscina Battery Company and ceased operations in 1993. The Ponchatoula Battery Company moved its operation adjacent to the Delatte and Fuscina Battery Company between 1972 and 1978.

During LDEQ and EPA investigations, discharge from the facilities showed a pH range from 0.55 to 2 standard units (s.u.). Analytical samples from on-site soil and groundwater samples indicated the presence of heavy metals including Lead, Arsenic, and Cadmium. An observed release of Lead

and Cadmium to Selsers Creek was documented by the analytical data from the sediment samples collected at three probable points of entry.

Remedial action (RA) operations began on November 18, 2002, and the implementation was completed on September 22, 2003. During the RA, the principle threat wastes were excavated, immobilized, and transported off-site for disposal. A permeable reactive barrier wall (PRB) was installed to neutralize the acidity of the shallow water-bearing zone and limit the migration of dissolved metals. Following the RA, an O&M program was initiated to ensure the effectiveness of the selected remedy. The O&M program initially included groundwater monitoring of 31 monitoring and water supply wells to monitor the metal concentrations and pH in the site groundwater. The O&M program was modified in September 2013 to include monitoring of 44 monitoring and water supply wells and five (5) surface water sample locations. This report summarizes the site activities performed during the current quarter associated with the onsite and offsite water supply wells only. Data collected by SEMS from the 39 monitor wells and five (5) surface water sample locations included in the O&M program is reported to the LDEQ semi-annually and is not included in this quarterly report.

Three distinct and local water bearing zones (WBZ) were identified at the site during previous investigations. The three WBZ are located at the site from ground surface to approximately 100 feet below ground surface (ft-bgs).

- The First WBZ is generally found between 5 and 15 ft-bgs. This zone is semi-confined on its sides and is overlain by sandy/silty clay across the northern section of the site. During the Remedial Investigation (RI), a clay unit was encountered underneath this First WBZ. Currently 22 monitor wells are screened in this zone. This WBZ was previously classified according to RECAP as a Class 3B aquifer.
- The Second WBZ encountered at the site generally consists of intermittent layers of gray, tan, and orange clayey silt. At various locations, this WBZ is typically encountered between 15 and 40 ft-bgs. The Second WBZ appears to be confined and relatively

continuous across the site. Currently 13 monitor wells are screened in this zone. This WBZ was previously classified according to RECAP as a Class 2C aquifer.

- The Third WBZ encountered at the site consists of light brown to gray silty sand and sand. During the RI, this Third WBZ was encountered between 58 and 62 ft-bgs, extending to the maximum depth of the site borings (100 ft-bgs). The Third WBZ appears to be confined and continuous across the site. There are currently four monitor wells screened in this zone. This WBZ was previously classified according to RECAP as a Class 1B aquifer.

Underneath the three local WBZs identified at the site are three regional aquifers: The Shallow Aquifer (also known as the Upland Terrace Aquifer), the Ponchatoula Aquifer (which is subdivided into two units: the upper and lower Ponchatoula Aquifers), and the Tchefuncte Aquifer. The five (5) onsite and offsite water supply wells are screened below the Third WBZ and a summary of the water supply well characteristics is provided as Table 1.

## **2.0 CHRONOLOGY OF EVENTS**

A chronology of events is as follows:

- October 31, 2013 – SEMS submitted the Operation and Maintenance Report – Third Quarter 2013 to the LDEQ for approval.
- November 1, 2013 – SEMS received award for O&M from LDEQ.
- December 23, 2013 – SEMS submitted an Addendum to the Operation and Maintenance Report – Third Quarter 2013 to the LDEQ.
- December 3 through 4, 2013 – SEMS performed grading of the access road to the PRB and installed a limestone rock road base. Two loads of silty clay fill material (48 cubic yards) were used to grade the 640 foot long stretch of access road. Five loads of limestone rock (90 cubic yards) were installed on the entire length of the access road at an average depth of three inches.
- December 9 through 12, 2013 – SEMS mobilized to the site and performed fourth quarter 2013 O&M activities.

- January 16, 2014 – SEMS submitted a draft of the revised Quality Assurance Project Plan (QAPP) and a draft of the revised O&M Manual to the LDEQ for review.

### **3.0 OPERATION AND MAINTENANCE ACTIVITIES**

Operation and maintenance activities include well inspection, PRB inspection, review of institutional controls, groundwater monitoring, and surface water monitoring. The frequency of sample collection and reporting varies at each sample location. Monitor wells screened in the First and Second WBZ are sampled and reported on a semi-annual basis. Monitor wells screened in the Third WBZ are sampled on an annual basis and the results are included in the semi-annual reports. Surface water is sampled and reported on a semi-annual basis. The onsite and offsite water supply wells are sampled and reported on a quarterly basis. Only the data concerning the onsite and offsite water supply wells is included in this quarterly report. All other groundwater and surface water data collected during the current quarter is included in the Operation and Maintenance Report – Second Half 2013 submitted to the LDEQ concurrently with this report. The sampling and reporting schedule for each sample location is provided in Table 2.

On December 9<sup>th</sup> through 12<sup>th</sup> 2013, SEMS mobilized to the site and performed quarterly sampling of the five (5) onsite and offsite water supply wells. Inspection of the wells and the PRB and review of the institutional controls were also performed during this period. Details of activities performed at the site are summarized below.

#### **3.1 ACCESS TO WELLS**

Clearing of the wells was performed prior to sampling to provide access to the wells.

#### **3.2 WELL INSPECTION**

The water supply wells were inspected during the groundwater sampling event for damage. Table 1 includes a listing of the water supply wells at the site and Figure 1 shows the locations of the

wells. The Well Inspection Checklist is included with the field data in Attachment A. No deficiencies were noticed during this sampling event.

### 3.3 PERMEABLE REACTIVE BARRIER (PRB) INSPECTION

The grass at the PRB mowed by the LDEQ Contractor prior to the current sampling event. SEMS inspected the condition of the PRB during the current sampling event and noted the following:

- No cracks or erosion are visible in the PRB.
- Subsidence is evident near the midsection of the PRB and requires fill.

Fill is scheduled to be applied to the PRB during the first half of 2014. The PRB will continue to be monitored quarterly.

### 3.4 REVIEW OF INSTITUTIONAL CONTROLS

Inspections were made of deed files 650403, 674854, and 674853 online at the Tangipahoa website ([www.tangiclerk.org](http://www.tangiclerk.org)) for the institutional controls limiting site reuse to an industrial scenario at the Tangipahoa Parish Clerk of Court. A review of these files showed that they are still on record with the Tangipahoa Parish Clerk of Court.

### 3.5 GROUNDWATER MONITORING, SAMPLING, AND ANALYTICAL PROCEDURES

The five (5) onsite and offsite water supply wells were sampled during the quarterly groundwater sampling event. The locations of the water supply wells are shown on Figure 1.

Groundwater was purged from the water supply wells by opening the valves and allowing the water to flow for a period of 20 minutes. After twenty minutes elapsed, the sample was collected for laboratory analysis. Samples were placed in laboratory-supplied, pre-preserved containers and placed in a cooler with ice. Instantaneous water quality parameters were measured in the field and

recorded on the field forms. The water quality parameters are summarized on Table 3. The samples were transported to Pace Analytical Services (Pace) in St. Rose, Louisiana for analysis. The samples were shipped accompanied by proper chain-of-custody documentation.

Quality Assurance/Quality Control (QA/QC) samples were collected during the quarterly sampling event in accordance with the O&M Manual. A summary of QA/QC samples collected during the current quarter is included in the field data sheets presented in Attachment A. All QA/QC samples collected during the current quarter were from monitor wells that are reported on a semi-annual basis and are not included in this quarterly report. The Operation and Maintenance Report – Second Half 2013 submitted to the LDEQ concurrently with this report includes the data from the QA/QC samples.

Groundwater samples were analyzed for Total Metals including arsenic, cadmium, lead, manganese, nickel, and zinc via method SW6020 or SW6010. Summaries of groundwater analytical data are provided in Table 4 and are further discussed in Section 4.0. A copy of the laboratory reports and chain-of-custody documentation are included in Attachment B.

The personal protective equipment and other disposable material that contacted the site groundwater is contained in a 55-gallon metal drum and stored at the site south of the “North Well” water supply well. Copies of drum disposal manifests for this quarter, if applicable, are included in Attachment A.

It should be noted that additional drums and investigation-derived waste that are generated by the United States Geological Survey (USGS) are located adjacent to the drum storage area. The USGS will maintain their drums from their groundwater sampling events.

## **4.0 ANALYTICAL DATA REVIEW**

### **4.1 CURRENT PERIOD CONSTITUENT CONCENTRATION**

A file review was performed and only Site Cleanup levels for pH and lead were found. The lead and pH Site Cleanup levels according to the QAPP prepared for the EPA in September 28, 2004 were 0.015 mg/L and 7.0 s.u., respectively. Since a perfect pH of 7.0 s.u. is not practically

obtainable, SEMS recommends that an alternative pH be used for the acceptable pH level. The EPA acceptable range for drinking water is 6.5-8.5 s.u. The onsite and offsite water supply wells are screened in a Groundwater Class 1 aquifer and their pH will be evaluated using the 6.5-8.5 s.u. range. According to the LDEQ, the LDEQ RECAP Screening Standards (SS) should be used for comparison to the other site COCs.

Below is a brief summary of all COCs exceeding the applicable site limiting standards:

The following onsite and offsite water supply wells were outside their EPA acceptable pH range:

- WW-04, North Well, and South Well were above the EPA acceptable pH range of 6.5-8.5 s.u. with a maximum pH reading of 9.60 s.u. in the South Well.

No onsite or offsite water supply wells exhibited arsenic, cadmium, lead, manganese, nickel, or zinc concentrations above RECAP SS or EPA Site Cleanup levels during the current sampling event.

Analytical results for this quarter are summarized in Table 4. Isoconcentration maps prepared for the onsite and offsite water supply wells are presented as Figures 2 through 8. Following a review of the water supply well isoconcentration maps only pH was found to not be horizontally delineated to its applicable limiting standard.

## 4.2 HISTORICAL GROUNDWATER MONITORING TRENDS

A historical summary of the groundwater analytical data from the past eight quarters is presented in Table 5. Historical data trend graphs are presented in Attachment C that show pH, arsenic, cadmium, lead, manganese, nickel, and zinc concentrations over time. For graphing purposes, the reporting limit was used in place of all non-detected concentrations. The historical data trend graphs were completed in Excel and a linear regression trendline was generated by Excel using the previous eight quarters of data for each COC.

Only those water supply wells with at least two quarters of analytical data exceeding site cleanup or RECAP SS are considered in the trend evaluation. A review of the graphs and evaluation of constituent trends provides the information below:

The following exceeding constituent concentration trends were observed in the onsite and offsite water supply wells:

**Lead, Arsenic, Manganese, Nickel, Cadmium, and Zinc:** No exceedances observed for any two of the previous eight quarters sampled.

**pH:** Above 8.5 s.u. and increasing: WW-04 and South Well

Above 8.5 s.u. and decreasing: (b) (6) Well

Above 8.5 s.u. and stable: North Well

#### **Water Supply Well Observations**

Since the water wells evaluated offsite have had exceedances for pH, the trends for pH have been evaluated from 2006 to present for water wells WW-09 and WW-04 and from 2008 to present for the (b) (6) Well. These additional graphs are provided in Attachment C. The trend for WW-09 shows that the pH is decreasing (8.6 s.u. to 7.9 s.u.) and approaching neutrality while the pH of WW-04 and the (b) (6) Well are both increasing (8.4 s.u. to 9.0 s.u. and 7.9 s.u. to 8.6 s.u., respectively). The groundwater in the Third WBZ flows to the east. The cause for the changes in the pH at these water wells is unknown.

#### **4.3 QUALITY ASSURANCE/QUALITY CONTROL AND UNUSUAL FINDINGS**

A summary of QA/QC samples collected during the current quarter is included in the field data sheets presented in Attachment A. QA/QC samples include at least one duplicate for every 10 samples, one matrix spike for every 20 samples, and one matrix spike duplicate for every 20 samples. All QA/QC samples collected during the current quarter were from monitor wells that are reported on a semi-annual basis and are not included in this quarterly report. The Operation and Maintenance Report – Second Half 2013 submitted to the LDEQ concurrently with this report includes the data from the QA/QC samples. All QA/QC duplicate sample analytical results were reported within a factor of 10 of the original analytical sample results. All data sets were accepted. Full laboratory analytical reports are included in Attachment B. Each laboratory analytical report includes laboratory QA/QC documentation.



The analytical data was reviewed by TerraBase Incorporated (TerraBase), a third party data validator. TerraBase reviewed a minimum of ten percent of the samples analyzed. The (b) (6) Well is the only sample that is included in the TerraBase data review for the current quarterly report. A discussion of the data validation of other samples that were collected during the current quarter but are reported semi-annually is provided in the Operation and Maintenance Report – Second Half 2013 that was submitted to the LDEQ concurrently with this report. The following changes were made to this report as a result of the data validation:

- Pace reported the (b) (6) Well arsenic result as 0.00157 mg/L and the validated result was 0.00157 mg/L with a J flag.
- Pace reported the (b) (6) Well nickel result as < 0.001 mg/L and the validated result was < 0.001 mg/L with a J flag.
- Pace reported the (b) (6) Well zinc result as < 0.005 mg/L and the validated result was < 0.005 mg/L with a J flag.

The tables and graphs have been updated to reflect these changes. No major discrepancies were found in the data validation report, which is included in Attachment D. The Level IV analytical report is attached to this report with a compact disk (CD) in an electronic format as requested by LDEQ.

No unusual findings were noted during this report:

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

The following conclusions and recommendations are based on evaluation of data presented within this groundwater monitoring report.

- SEMS recommends continuing with quarterly O&M of the onsite and offsite water supply wells.

## TABLES

**TABLE 1**  
**WATER SUPPLY WELL DATA**  
**DELATTE METALS SUPERFUND SITE**  
**PONCHATOULA, LOUISIANA**  
**AGENCY INTEREST NO. 2328**

Well ID	Address	Depth (feet)	Date Installed
WW-04*	39229 Keaghey Road Ponchatoula, LA 70454	Unknown	Unknown
WW-09*	39233 Keaghey Road Ponchatoula. LA70454	60	10/94
North Well	19119 Weinberger Road Ponchatoula. LA 70454	Unknown	Unknown
South Well	19113 Weinberger Road Ponchatoula, LA 70454	Unknown	Unknown
(b) (6) Well**	Keaghey Road Ponchatoula. LA70454	Unknown	Unknown

Notes: Water Well

\*Designations for water wells WW-04 and WW-09 were obtained from the Delatte Metals Remedial Investigation Report (Tetra Tech 2000)

\*\*Designation was named in field based on current owners name

**TABLE 2**  
**SAMPLING AND REPORTING SCHEDULE**

Delatte Metals Superfund Site  
Ponchatoula, Louisiana  
Agency Interest No. 2328

(Page 1 of 4)

Sample ID	Sample Collection Frequency	Reporting Frequency	Analyses Required
<b>First Water-Bearing Zone Monitoring Wells</b>			
DW-1	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
DW-2	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
DW-3	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
MW-1	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
MW-2	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
MW-6	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
PW-4	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BA-03	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BA-09	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
GSGP-3	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
GSGP-6	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
GSGP-15	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
GSGP-18	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
GSGP-19	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
GSGP-22	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
TEPA-1H	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides

Notes: 1) \* All monitoring wells will be sampled for total metals. Monitoring wells will be sampled for dissolved metals as needed based upon turbidity readings in the field. All surface water samples will be sampled for both total and dissolved metals.

2) \*\* Monitoring wells in the 3rd WBZ will be sampled annually and the results will be included in the semi-annual report.

**TABLE 2**  
**SAMPLING AND REPORTING SCHEDULE**

Delatte Metals Superfund Site  
Ponchatoula, Louisiana  
Agency Interest No. 2328

(Page 2 of 4)

Sample ID	Sample Collection Frequency	Reporting Frequency	Analyses Required
<b>First Water-Bearing Zone Monitoring Wells</b>			
TEPA-6H	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
TEPA-9H	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
TEPA-P6	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
TEPA-P7D	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
TEPA-P9	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
TEPA-P10	Semi-Annual	Semi-Annual	Total and Dissolved Metals*, Sulfates, Sulfides
<b>Second Water-Bearing Zone Monitoring Wells</b>			
DW-4	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
MW-A	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
MW-3	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
MW-4	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BA-01	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BA-05	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BA-09A	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BC-03	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BC-17	Semi-Annual	Semi-Annual	Total and Dissolved Metals*

Notes: 1) \* All monitoring wells will be sampled for total metals. Monitoring wells will be sampled for dissolved metals as needed based upon turbidity readings in the field. All surface water samples will be sampled for both total and dissolved metals.

2) \*\* Monitoring wells in the 3rd WBZ will be sampled annually and the results will be included in the semi-annual report.

**TABLE 2**  
**SAMPLING AND REPORTING SCHEDULE**

Delatte Metals Superfund Site  
Ponchatoula, Louisiana  
Agency Interest No. 2328

(Page 3 of 4)

Sample ID	Sample Collection Frequency	Reporting Frequency	Analyses Required
<b>Second Water-Bearing Zone Monitoring Wells</b>			
BC-19	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BC-21R	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
BC-25	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
<b>Third-Water-Bearing Zone Monitoring Wells</b>			
BA-03A	Annual	Semi-Annual**	Total and Dissolved Metals*
BA-05A	Annual	Semi-Annual**	Total and Dissolved Metals*
BB-01	Annual	Semi-Annual**	Total and Dissolved Metals*
BA-01A	Annual	Semi-Annual**	Total and Dissolved Metals*
<b>Water Supply Wells</b>			
WW-04	Quarterly	Quarterly	Total Metals
WW-09	Quarterly	Quarterly	Total Metals
North Well	Quarterly	Quarterly	Total Metals
South Well	Quarterly	Quarterly	Total Metals
(b) (6) Well	Quarterly	Quarterly	Total Metals
<b>Surface Water</b>			
CA-41	Semi-Annual	Semi-Annual	Total and Dissolved Metals*

Notes: 1) \* All monitoring wells will be sampled for total metals. Monitoring wells will be sampled for dissolved metals as needed based upon turbidity readings in the field. All surface water samples will be sampled for both total and dissolved metals.

2) \*\* Monitoring wells in the 3rd WBZ will be sampled annually and the results will be included in the semi-annual report.

**TABLE 2**  
**SAMPLING AND REPORTING SCHEDULE**

**Delatte Metals Superfund Site**  
**Ponchatoula, Louisiana**  
**Agency Interest No. 2328**

(Page 4 of 4)

Sample ID	Sample Collection Frequency	Reporting Frequency	Analyses Required
<b>Surface Water</b>			
CA-51	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
CL-05	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
CL-19	Semi-Annual	Semi-Annual	Total and Dissolved Metals*
Bridge	Semi-Annual	Semi-Annual	Total and Dissolved Metals*

Notes: 1) \* All monitoring wells will be sampled for total metals. Monitoring wells will be sampled for dissolved metals as needed based upon turbidity readings in the field. All surface water samples will be sampled for both total and dissolved metals.

2) \*\* Monitoring wells in the 3rd WBZ will be sampled annually and the results will be included in the semi-annual report.

**TABLE 3**  
**GROUNDWATER SAMPLING SUMMARY**  
**DELATTE METALS SUPERFUND SITE**  
**PONCHATOULA, LOUISIANA**  
**AGENCY INTEREST NO. 2328**  
**(Past 8 Quarters)**

Monitoring/ Sample Well No. & Date	Groundwater Elevation			Groundwater Quality Data					
	TOC Elevation (ft-NGVD)	Depth to Water (feet)	Corrected GW Elev. (ft-NGVD)	Temperature (°C)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH (Standard Units)	ORP (mV)	Turbidity (NTU)
<b>WATER WELLS</b>									
<b>(b) (6) Well</b>									
February-12	NA	NA	NA	19.10	0.230	3.32	8.20	-155	2.4
May-12	NA	NA	NA	21.23	0.257	5.23	9.08	-176	2.3
August-12	NA	NA	NA	21.69	0.279	2.47	8.11	-163	3.7
December-12	NA	NA	NA	19.08	0.258	2.41	8.46	-186	4
February-13	NA	NA	NA	19.45	0.272	1.90	8.62	-52	8.5
June-13	NA	NA	NA	23.70	0.287	2.17	9.30	-235	1.4
August-13	NA	NA	NA	21.11	0.291	2.87	8.20	-173	0.0
December-13	NA	NA	NA	18.88	0.292	2.19	7.87	-175	2.5
<b>WW-04</b>									
February-12	NA	NA	NA	16.72	0.236	2.35	8.51	-4	3.2
May-12	NA	NA	NA	20.83	0.261	2.33	8.65	-126	0.0
August-12	NA	NA	NA	21.84	0.284	1.75	8.47	-180	7.2
December-12	NA	NA	NA	19.06	0.265	1.71	8.41	-219	5
February-13	NA	NA	NA	19.30	0.293	1.53	9.11	-111	5.1
June-13	NA	NA	NA	24.50	0.292	1.70	9.84	-281	0.7
August-13	NA	NA	NA	22.28	0.306	3.03	8.50	-193	0.0
December-13	NA	NA	NA	17.84	0.297	3.99	9.09	-239	1.5
<b>WW-09</b>									
February-12	NA	NA	NA	15.18	0.231	3.08	7.69	-113	2.9
May-12	NA	NA	NA	21.99	0.254	2.60	7.98	-156	9.2
August-12	NA	NA	NA	24.41	0.275	4.44	7.81	-162	5.0
December-12	NA	NA	NA	14.94	0.260	3.55	7.69	-179	8
February-13	NA	NA	NA	17.95	0.274	7.64	8.32	-31	3.9
June-13	NA	NA	NA	23.99	0.288	4.64	8.87	-236	0.6
August-13	NA	NA	NA	22.08	0.281	6.22	7.62	-162	0.0
December-13	NA	NA	NA	16.19	0.184	4.85	7.98	-68	4.0
<b>North Well</b>									
February-12	NA	NA	NA	20.06	0.257	2.65	8.50	163	0.0
May-12	NA	NA	NA	23.15	0.266	2.10	8.70	-253	—
August-12	NA	NA	NA	24.24	0.282	1.16	8.88	-256	1.2
December-12	NA	NA	NA	21.22	0.269	1.64	8.52	377	0
February-13	NA	NA	NA	21.23	0.291	2.18	8.65	97	0.0
June-13	NA	NA	NA	23.05	0.285	1.94	9.00	-246	0.3
August-13	NA	NA	NA	23.05	0.290	2.11	8.20	14	0.0
December-13	NA	NA	NA	20.44	0.293	1.00	8.82	242	1.8
<b>South Well</b>									
February-12	NA	NA	NA	19.93	0.236	2.55	9.06	-125	0.0
May-12	NA	NA	NA	22.48	0.258	3.41	9.24	-161	0.0
August-12	NA	NA	NA	22.95	0.236	1.66	9.33	-230	2.8
December-12	NA	NA	NA	20.06	0.260	2.13	9.23	-111	0
February-13	NA	NA	NA	18.80	0.302	1.75	8.15	-80	2.6
June-13	NA	NA	NA	23.77	0.294	2.63	9.06	-231	0.8
August-13	NA	NA	NA	21.95	0.292	2.14	8.93	-176	0.0
December-13	NA	NA	NA	19.37	0.294	2.39	9.60	-156	1.9

Notes: 1) Top-of-casing (TOC) elevation - (depth to fluid) = Corrected GROUNDWATER (GW) elevation  
2) Additional quarters will be added as sampling events continue  
Abbrev.: NA = Not Applicable mg/L = milligrams per Liter NF = Not Found  
NM = Not Measured NS = Not Sampled



**TABLE 4**  
**CURRENT QUARTER GROUNDWATER ANALYTICAL SUMMARY**  
**TOTAL METALS**

Delatte Metals Superfund Site  
Ponchatoula, Louisiana  
Agency Interest No. 2328

Line #	COC/CAS	Method	Sample ID	Media	Lab Sample Identification	Sample Date	Option Used	Limiting Standard mg/L	Reporting Limit mg/L	Sample Result mg/L	QA/QC Flag	Exceed Limiting Standard
1	Total Arsenic/7440-38-2	EPA 6020	NORTH WELL	Groundwater	201150639	12/9/2013	RECAP SS	0.01	0.001	<0.00100		No
2	Total Cadmium/7440-43-9	EPA 6020	NORTH WELL	Groundwater	201150639	12/9/2013	RECAP SS	0.005	0.001	<0.00100		No
3	Total Lead/7439-92-1	EPA 6020	NORTH WELL	Groundwater	201150639	12/9/2013	EPA Site Cleanup	0.015	0.001	<0.00100		No
4	Total Manganese/7439-96-5	EPA 6020	NORTH WELL	Groundwater	201150639	12/9/2013	RECAP SS	0.51	0.001	0.00366		No
5	Total Nickel/7440-02-0	EPA 6020	NORTH WELL	Groundwater	201150639	12/9/2013	RECAP SS	0.073	0.001	<0.00100		No
6	Total Zinc/7440-66-6	EPA 6020	NORTH WELL	Groundwater	201150639	12/9/2013	RECAP SS	1.1	0.005	<0.00500		No
7	Total Arsenic/7440-38-2	EPA 6020	(b) (6) WELL	Groundwater	201150629	12/9/2013	RECAP SS	0.01	0.001	0.00157	J	No
8	Total Cadmium/7440-43-9	EPA 6020	(b) (6) WELL	Groundwater	201150629	12/9/2013	RECAP SS	0.005	0.001	<0.00100		No
9	Total Lead/7439-92-1	EPA 6020	(b) (6) WELL	Groundwater	201150629	12/9/2013	EPA Site Cleanup	0.015	0.001	0.00145		No
10	Total Manganese/7439-96-5	EPA 6020	(b) (6) WELL	Groundwater	201150629	12/9/2013	RECAP SS	0.51	0.001	0.0233		No
11	Total Nickel/7440-02-0	EPA 6020	(b) (6) WELL	Groundwater	201150629	12/9/2013	RECAP SS	0.073	0.001	<0.00100	J	No
12	Total Zinc/7440-66-6	EPA 6020	(b) (6) WELL	Groundwater	201150629	12/9/2013	RECAP SS	1.1	0.005	<0.00500	J	No
13	Total Arsenic/7440-38-2	EPA 6020	SOUTH WELL	Groundwater	201150637	12/9/2013	RECAP SS	0.01	0.001	<0.00100		No
14	Total Cadmium/7440-43-9	EPA 6020	SOUTH WELL	Groundwater	201150637	12/9/2013	RECAP SS	0.005	0.001	<0.00100		No
15	Total Lead/7439-92-1	EPA 6020	SOUTH WELL	Groundwater	201150637	12/9/2013	EPA Site Cleanup	0.015	0.001	<0.00100		No
16	Total Manganese/7439-96-5	EPA 6020	SOUTH WELL	Groundwater	201150637	12/9/2013	RECAP SS	0.51	0.001	0.00385		No
17	Total Nickel/7440-02-0	EPA 6020	SOUTH WELL	Groundwater	201150637	12/9/2013	RECAP SS	0.073	0.001	<0.00100		No
18	Total Zinc/7440-66-6	EPA 6020	SOUTH WELL	Groundwater	201150637	12/9/2013	RECAP SS	1.1	0.005	0.0144		No
19	Total Arsenic/7440-38-2	EPA 6020	WW-04	Groundwater	201150630	12/9/2013	RECAP SS	0.01	0.001	<0.00100		No
20	Total Cadmium/7440-43-9	EPA 6020	WW-04	Groundwater	201150630	12/9/2013	RECAP SS	0.005	0.001	<0.00100		No
21	Total Lead/7439-92-1	EPA 6020	WW-04	Groundwater	201150630	12/9/2013	EPA Site Cleanup	0.015	0.001	<0.00100		No
22	Total Manganese/7439-96-5	EPA 6020	WW-04	Groundwater	201150630	12/9/2013	RECAP SS	0.51	0.001	0.00315		No
23	Total Nickel/7440-02-0	EPA 6020	WW-04	Groundwater	201150630	12/9/2013	RECAP SS	0.073	0.001	<0.00100		No
24	Total Zinc/7440-66-6	EPA 6020	WW-04	Groundwater	201150630	12/9/2013	RECAP SS	1.1	0.005	<0.00500		No
25	Total Arsenic/7440-38-2	EPA 6020	WW-09	Groundwater	201150676	12/12/2013	RECAP SS	0.01	0.001	<0.00100		No
26	Total Cadmium/7440-43-9	EPA 6020	WW-09	Groundwater	201150676	12/12/2013	RECAP SS	0.005	0.001	<0.00100		No
27	Total Lead/7439-92-1	EPA 6020	WW-09	Groundwater	201150676	12/12/2013	EPA Site Cleanup	0.015	0.001	<0.00100		No
28	Total Manganese/7439-96-5	EPA 6020	WW-09	Groundwater	201150676	12/12/2013	RECAP SS	0.51	0.001	0.0178		No
29	Total Nickel/7440-02-0	EPA 6020	WW-09	Groundwater	201150676	12/12/2013	RECAP SS	0.073	0.001	<0.00100		No
30	Total Zinc/7440-66-6	EPA 6020	WW-09	Groundwater	201150676	12/12/2013	RECAP SS	1.1	0.005	<0.00500		No

TABLE 5  
HISTORICAL GROUNDWATER MONITORING SUMMARY  
DELATTE METALS SUPERFUND SITE  
PONCHATOULA, LOUISIANA  
AGENCY INTEREST NO. 2328

Monitoring/Sampling Period: Past 8 Quarters

	Potentiometric Data			Groundwater Analytical Data											
Monitoring/ Sample Well No. & Date	TOC Elevation (ft-NGVD)	Depth to Water (feet)	Corrected GW Elev. (ft-NGVD)	pH Standard Unit	Total Metals						Dissolved Metals				
					Arsenic (mg/L)	Cadmium (mg/L)	Lead (mg/L)	Manganese (mg/L)	Nickel (mg/L)	Zinc (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Lead (mg/L)	Manganese (mg/L)	N (mg/L)
WATER WELLS															
South Well															
February-12	NA	NA	NA	9.06	< 0.004	0.000106 J	< 0.001	0.00484	< 0.002	0.00646 J	NA	NA	NA	NA	
May-12	NA	NA	NA	9.24	< 0.004	< 0.002	< 0.001	0.00366	< 0.002	0.0119	NA	NA	NA	NA	
August-12	NA	NA	NA	9.33	< 0.000724	< 0.001	< 0.001	0.0039 J	< 0.002	< 0.013	NA	NA	NA	NA	
December-12	NA	NA	NA	9.23	< 0.004	0.000652 J	0.000244 J	0.00559	0.000412 J	0.021	NA	NA	NA	NA	
February-13	NA	NA	NA	8.15	< 0.005	< 0.005	< 0.001	< 0.01	< 0.01	< 0.02	NA	NA	NA	NA	
June-13	NA	NA	NA	9.06	0.00155 J	< 0.002	0.00282	0.00448	0.000334 J	< 0.01	NA	NA	NA	NA	
August-13	NA	NA	NA	8.93	0.00026 J	< 0.00011	< 0.000033	0.0041	0.00024 J	0.0084	NA	NA	NA	NA	
December-13	NA	NA	NA	9.60	< 0.001	< 0.001	< 0.001	0.00385	< 0.001	0.0144	NA	NA	NA	NA	
SITE CLEANUP or LDEQ RECAP SS				6.5-8.5	0.010	0.005	0.015	0.51	0.073	1.1	0.010	0.005	0.015	0.51	0

Notes:

- 1) Top-of-casing (TOC) elevation - (depth to fluid) = Corrected GROUNDWATER (GW) elevation
- 2) Site specific cleanup standards were found in previous reports for Lead and pH only. The additional screening standards are from the LDEQ RECAP Screening Standards (SS), which were provided by the LDEQ.
- 3) The Site Cleanup Standard for pH = 7.0 s.u.; however EPA Drinking Water Standards for pH = 6.5-8.5 s.u. and the EPA Storm Water Discharge Standards for pH=6.0-9.0 s.u are being used for comparison purposes.
- 4) Bold Values Exceed Site Cleanup or RECAP SS
- 5) Reporting Limits from the analytical reports are used for non-detect results

Abrev.: NA = Not Applicable      mg/L= milligrams per Liter      NF = Not Found

NM = Not Measured      NS=Not Sampled

D= Surrogate Recovery Unreportable due to Dilution

N = Recovery in the Matrix Spike and Matrix Spike Duplicate exceeded the control limit acceptance criteria E= Concentrations Exceeding Calibration Rand of Instrument

J = Flagged by lab - An estimated value between the MDL and PQL is provided.

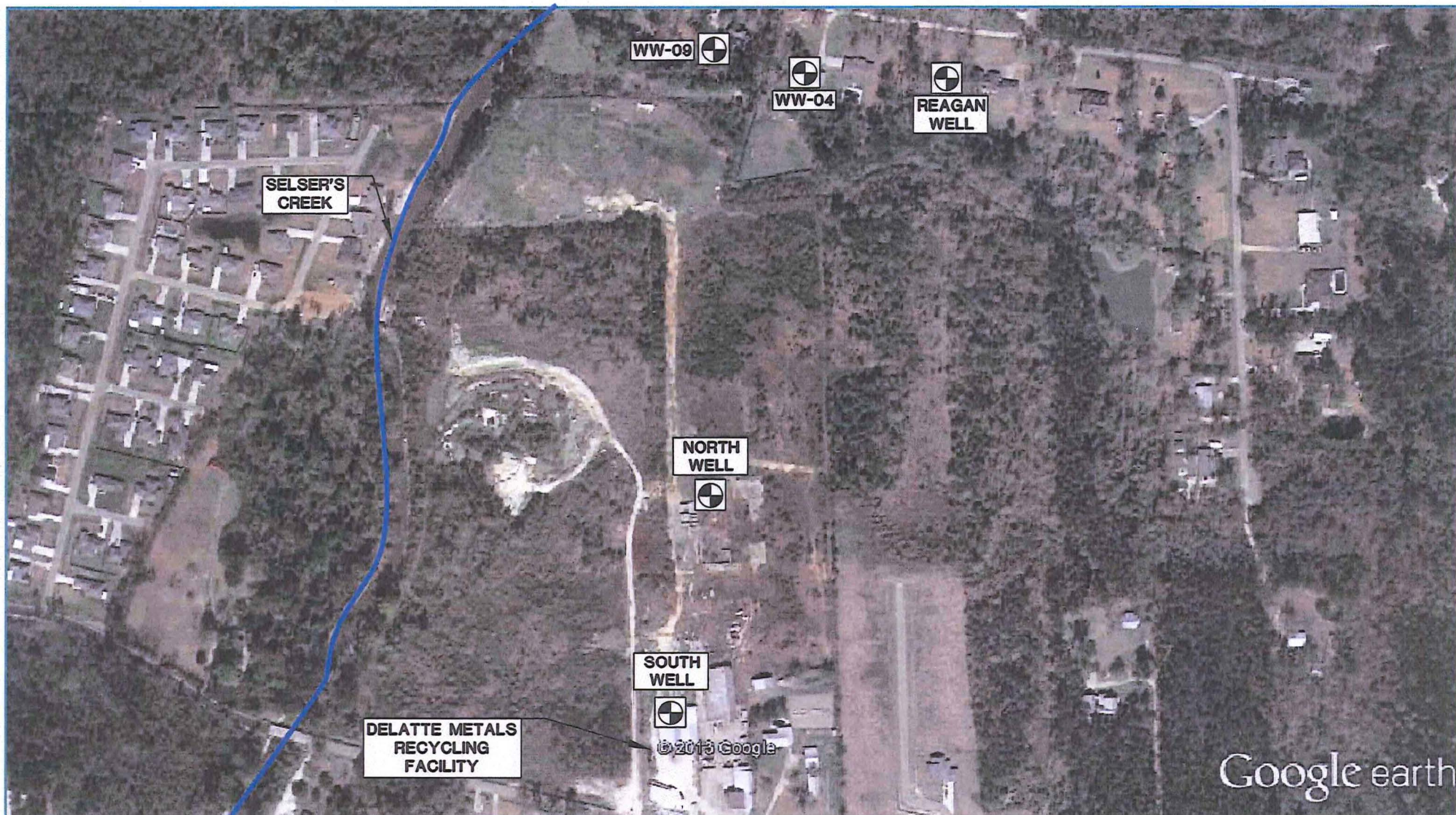
B/V = Analyte Detected in the associated Method Blank above Rep. Limit

TABLE 5  
HISTORICAL GROUNDWATER MONITORING SUMMARY  
DELATTE METALS SUPERFUND SITE  
PONCHATOULA, LOUISIANA  
AGENCY INTEREST NO. 2328

Monitoring/Sampling Period: Past 8 Quarters

	Potentiometric Data			Groundwater Analytical Data												
Monitoring/ Sample Well No. & Date	TOC Elevation (ft-NGVD)	Depth to Water (feet)	Corrected GW Elev. (ft-NGVD)	pH Standard Unit	Total Metals						Dissolved Metals					
					Arsenic (mg/L)	Cadmium (mg/L)	Lead (mg/L)	Manganese (mg/L)	Nickel (mg/L)	Zinc (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Lead (mg/L)	Manganese (mg/L)	Nickel (mg/L)	Zinc (mg/L)
WATER WELLS																
(b) (6) Well																
February-12	NA	NA	NA	8.20	0.00206 J	0.000123 J	0.00343	0.0239	0.000616 J	0.0288	NA	NA	NA	NA	NA	NA
May-12	NA	NA	NA	9.08	0.00174 J	< 0.002	0.00192	0.0241	< 0.002	0.00396 J	NA	NA	NA	NA	NA	NA
August-12	NA	NA	NA	8.11	< 0.004	0.000106 J	0.00226	0.0233	0.000572 J	0.0425	NA	NA	NA	NA	NA	NA
December-12	NA	NA	NA	8.46	< 0.004	0.00064 J	0.00133	0.0243	0.00217	0.00498 J	NA	NA	NA	NA	NA	NA
February-13	NA	NA	NA	8.62	< 0.005	< 0.001	0.0012	0.0243	< 0.01	< 0.02	NA	NA	NA	NA	NA	NA
June-13	NA	NA	NA	9.30	0.00261 J	< 0.002	0.00137	0.0227	0.000366 J	0.00302 J	NA	NA	NA	NA	NA	NA
August-13	NA	NA	NA	8.20	0.002 J	< 0.00053	0.00033 J	0.0259	< 0.00098	0.0085 J	NA	NA	NA	NA	NA	NA
December-13	NA	NA	NA	7.87	0.00157 J	< 0.001	0.00145	0.0233	< 0.001 J	< 0.005 J	NA	NA	NA	NA	NA	NA
WW-04																
February-12	NA	NA	NA	8.51	< 0.004	0.0000898 J	0.00457	0.00333	0.000438 J	0.0222	NA	NA	NA	NA	NA	NA
May-12	NA	NA	NA	8.65	< 0.004	< 0.002	< 0.001	0.00299	< 0.002	0.00626 J	NA	NA	NA	NA	NA	NA
August-12	NA	NA	NA	8.47	< 0.004	0.0000906 J	0.000568 J	0.00319	< 0.002	0.00376 J	NA	NA	NA	NA	NA	NA
December-12	NA	NA	NA	8.41	< 0.004	0.000638 J	0.00604	0.004	0.000482 J	0.0174	NA	NA	NA	NA	NA	NA
February-13	NA	NA	NA	9.11	< 0.005	< 0.001	< 0.001	< 0.01	< 0.01	< 0.02	NA	NA	NA	NA	NA	NA
June-13	NA	NA	NA	9.84	0.00133 J	< 0.002	0.000825 J	0.00282	< 0.002	0.00749 J	NA	NA	NA	NA	NA	NA
August-13	NA	NA	NA	8.50	0.0062	< 0.00053	< 0.00017	0.0035 J	< 0.00098	0.006 J	NA	NA	NA	NA	NA	NA
December-13	NA	NA	NA	9.09	< 0.001	< 0.001	< 0.001	0.00315	< 0.001	< 0.005	NA	NA	NA	NA	NA	NA
WW-09																
February-12	NA	NA	NA	7.69	< 0.004	0.0000958 J	0.000719 J	0.0172	0.000668 J	0.0134	NA	NA	NA	NA	NA	NA
May-12	NA	NA	NA	7.98	< 0.004	< 0.002	< 0.001	0.0173	< 0.002	0.00341 J	NA	NA	NA	NA	NA	NA
August-12	NA	NA	NA	7.81	< 0.004	0.000102 J	0.00104	0.018	0.00177 J	0.00823 J	NA	NA	NA	NA	NA	NA
December-12	NA	NA	NA	7.69	< 0.004	0.000639 J	0.00044 J	0.0193	0.000976 J	0.00452 J	NA	NA	NA	NA	NA	NA
February-13	NA	NA	NA	8.32	< 0.005	< 0.001	< 0.001	0.0179	< 0.01	< 0.02	NA	NA	NA	NA	NA	NA
June-13	NA	NA	NA	8.87	0.00129 J	< 0.002	0.00158	0.0177	< 0.002	0.00172 J	NA	NA	NA	NA	NA	NA
August-13	NA	NA	NA	7.62	0.00054 J	< 0.00053	< 0.00017	0.0182	< 0.00098	< 0.004	NA	NA	NA	NA	NA	NA
December-13	NA	NA	NA	7.98	< 0.001	< 0.001	< 0.001	0.0178	< 0.001	< 0.005	NA	NA	NA	NA	NA	NA
North Well																
February-12	NA	NA	NA	8.50	< 0.004	0.0000963 J	0.00119	0.000726 J	0.000394 J	0.00686 J	NA	NA	NA	NA	NA	NA
May-12	NA	NA	NA	8.70	0.000872 J	< 0.002	0.00107	0.00324	0.000908 J	0.00325 J	NA	NA	NA	NA	NA	NA
August-12	NA	NA	NA	8.88	< 0.004	0.000117 J	0.00205	0.00676	0.00028 J	0.00529 J	NA	NA	NA	NA	NA	NA
December-12	NA	NA	NA	8.52	< 0.004	0.000653 J	0.0009 J	0.00452	< 0.002	0.00306 J	NA	NA	NA	NA	NA	NA
February-13	NA	NA	NA	8.65	< 0.005	< 0.001	0.001	< 0.01	< 0.01	< 0.02	NA	NA	NA	NA	NA	NA
June-13	NA	NA	NA	9.00	0.00136 J	< 0.002	0.00121	0.00299	< 0.002	0.00411 J	NA	NA	NA	NA	NA	NA
August-13	NA	NA	NA	8.20	0.0004 J	< 0.00011	0.00091 J	0.0039	< 0.0002	0.0058	NA	NA	NA	NA	NA	NA
December-13	NA	NA	NA	8.82	< 0.001	< 0.001	< 0.001	0.00366	< 0.001	< 0.005	NA	NA	NA	NA	NA	NA
SITE CLEANUP or LDEQ RECAP SS				6.5-8.5	0.010	0.005	0.015	0.51	0.073	1.1	0.010	0.005	0.015	0.51	0.073	1.1



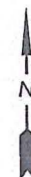


REFERENCE: MAP TAKEN FROM GOOGLE EARTH

### LEGEND

⊕ WATER SUPPLY WELL

330 0 330  
APPROXIMATE SCALE IN FEET



DRAWN BY:	LDG	CHECKED BY:	<i>[Signature]</i>	DRAWING NO.
	01/06/14	APPROVED BY:	<i>[Signature]</i>	WW

### FIGURE 1

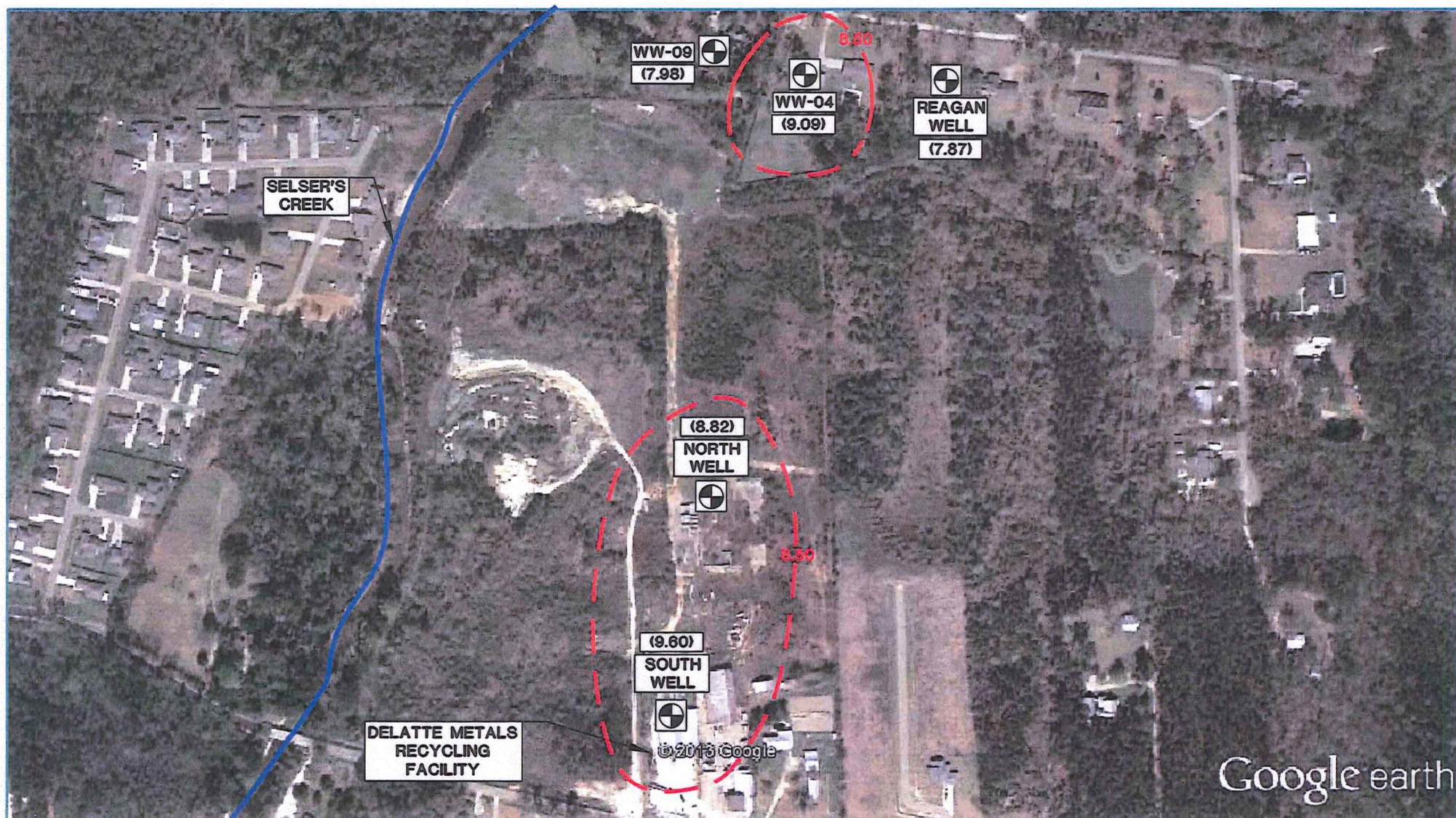
#### WATER WELL LOCATION MAP

DELATTE METALS SUPERFUND SITE  
PONCHATOULA, LOUISIANA  
AGENCY INTEREST NO. 2328

PREPARED FOR:  
LOUISIANA DEPARTMENT OF  
ENVIRONMENTAL QUALITY

**SEMS Inc.**



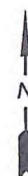


REFERENCE: MAP TAKEN FROM GOOGLE EARTH

### LEGEND

- ⊕ WATER SUPPLY WELL
- 8.50 — pH CONTOUR
- (9.60) pH LEVEL IN STANDARD UNIT

330 0 330  
APPROXIMATE SCALE IN FEET



DRAWN BY:	LDG	CHECKED BY:	<i>[Signature]</i>	DRAWING NO.
	01/15/14	APPROVED BY:	<i>[Signature]</i>	QTR/001

**FIGURE 2**  
**WATER WELL**  
**pH CONTOUR MAP**  
**(FOURTH QUARTER 2013)**  
DELATTE METALS SUPERFUND SITE  
PONCHATOULA, LOUISIANA  
AGENCY INTEREST NO. 2328  
PREPARED FOR:  
**LOUISIANA DEPARTMENT OF**  
**ENVIRONMENTAL QUALITY**

**SEMS Inc.**





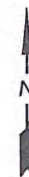
REFERENCE: MAP TAKEN FROM GOOGLE EARTH

#### LEGEND

- ⊕ WATER SUPPLY WELL
- mg/L MILLIGRAMS PER LITER
- ( $<0.001$ ) ARSENIC CONCENTRATION IN mg/L

#### NOTES:

- 1) NO SITE CLEANUP STANDARDS WERE FOUND FOR ARSENIC. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.01 mg/L.
- 2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR ARSENIC.



330 0 330  
APPROXIMATE SCALE IN FEET

DRAWN BY:	LDG	CHECKED BY:	<i>[Signature]</i>	DRAWING NO.
	01/20/14	APPROVED BY:	<i>[Signature]</i>	QTR/002

#### FIGURE 3 WATER WELL ARSENIC ISOCONCENTRATION MAP (FOURTH QUARTER 2013)

DELATTE METALS SUPERFUND SITE  
PONCHATOULA, LOUISIANA  
AGENCY INTEREST NO. 2328

PREPARED FOR:  
LOUISIANA DEPARTMENT OF  
ENVIRONMENTAL QUALITY

**SEMS Inc.**





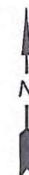
REFERENCE: MAP TAKEN FROM GOOGLE EARTH

#### LEGEND

- ⊕ WATER SUPPLY WELL
- mg/L MILLIGRAMS PER LITER
- (<0.001) CADMIUM CONCENTRATION IN mg/L

#### NOTES:

- 1) NO SITE CLEANUP STANDARDS WERE FOUND FOR CADMIUM. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.005 mg/L.
- 2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR CADMIUM.



330 0 330  
APPROXIMATE SCALE IN FEET

DRAWN BY:	LDG	CHECKED BY:	<i>n. lab</i>	DRAWING NO.
	01/20/14	APPROVED BY:	<i>n. lab</i>	QTR/003

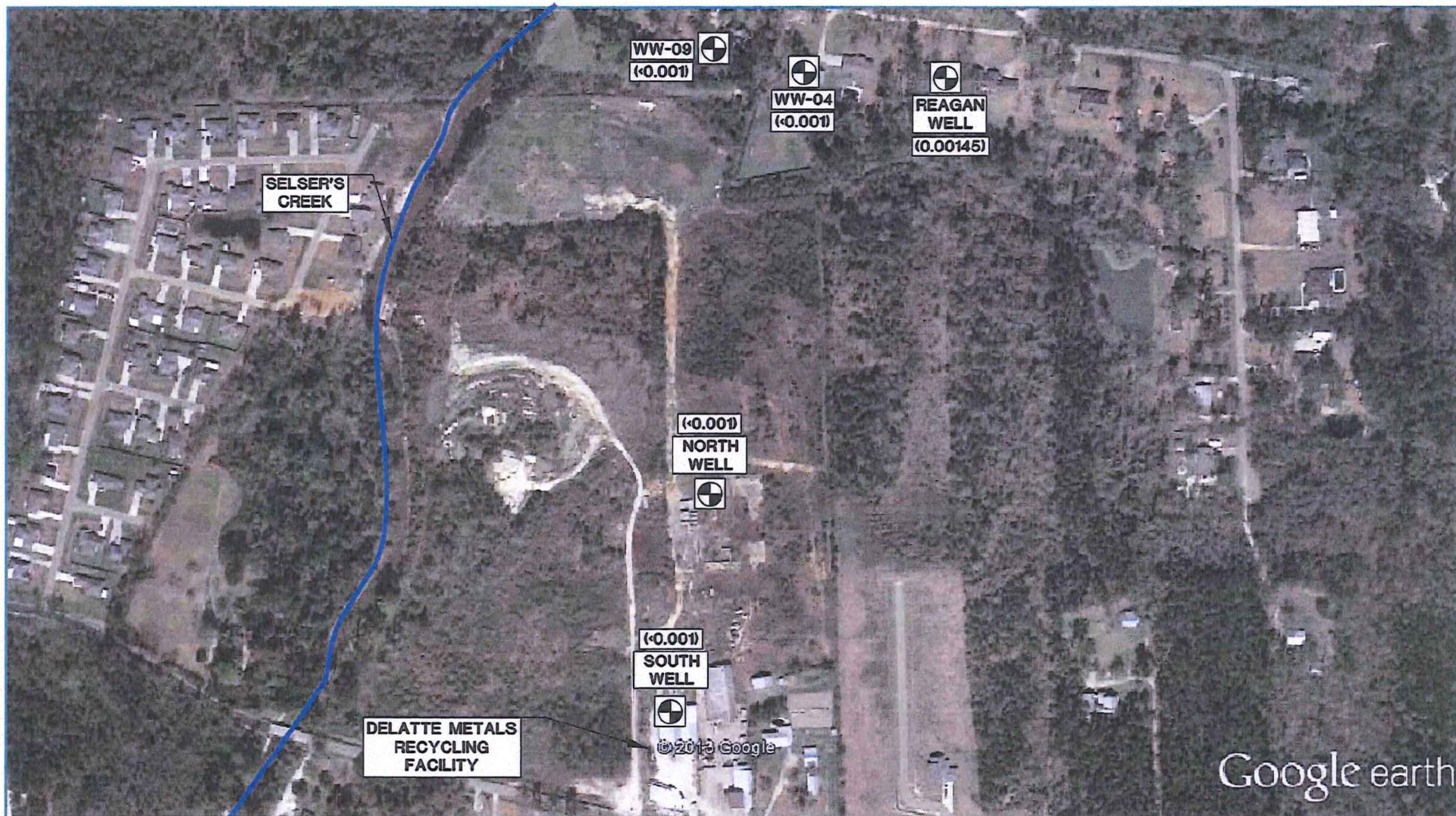
#### FIGURE 4 WATER WELL CADMIUM ISOCONCENTRATION MAP (FOURTH QUARTER 2013)

DELATTE METALS SUPERFUND SITE  
PONCHATOULA, LOUISIANA  
AGENCY INTEREST NO. 2328

PREPARED FOR:  
LOUISIANA DEPARTMENT OF  
ENVIRONMENTAL QUALITY


**SEMS Inc.**





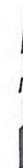
REFERENCE: MAP TAKEN FROM GOOGLE EARTH

#### LEGEND



-  WATER SUPPLY WELL  
 mg/L MILLIGRAMS PER LITER  
 (<0.001) LEAD CONCENTRATION IN mg/L

#### NOTES:

- 1) THE EPA SITE CLEANUP STANDARD FOR LEAD IS 0.015 mg/L.
- 2) NO WELLS SAMPLED EXCEEDED THE EPA SITE CLEANUP STANDARD.



330 0 330  
 APPROXIMATE SCALE IN FEET

DRAWN BY:	LDG	CHECKED BY:		DRAWING NO.
	01/20/14	APPROVED BY:		QTR/004

#### FIGURE 5 WATER WELL LEAD ISOCONCENTRATION MAP (FOURTH QUARTER 2013)

DELATTE METALS SUPERFUND SITE  
 PONCHATOULA, LOUISIANA  
 AGENCY INTEREST NO. 2328

PREPARED FOR:  
 LOUISIANA DEPARTMENT OF  
 ENVIRONMENTAL QUALITY

  
 SEMS Inc.





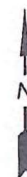
REFERENCE: MAP TAKEN FROM GOOGLE EARTH

#### LEGEND

- ⊕ WATER SUPPLY WELL  
 mg/L MILLIGRAMS PER LITER  
 (0.0178) MANGANESE CONCENTRATION IN mg/L

#### NOTES:

- 1) NO SITE CLEANUP STANDARDS WERE FOUND FOR MANGANESE. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.51 mg/L.
- 2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR MANGANESE.



330 0 330  
 APPROXIMATE SCALE IN FEET

DRAWN BY:	LDG	CHECKED BY:	<i>[Signature]</i>	DRAWING NO.
	01/20/14	APPROVED BY:	<i>[Signature]</i>	QTR/005

#### FIGURE 6 WATER WELL MANGANESE ISOCONCENTRATION MAP (FOURTH QUARTER 2013)

DELATTE METALS SUPERFUND SITE  
 PONCHATOULA, LOUISIANA  
 AGENCY INTEREST NO. 2328

PREPARED FOR:  
 LOUISIANA DEPARTMENT OF  
 ENVIRONMENTAL QUALITY

**SEMS Inc.**





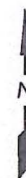
REFERENCE: MAP TAKEN FROM GOOGLE EARTH

### LEGEND

- ⊕ WATER SUPPLY WELL  
 mg/L MILLIGRAMS PER LITER  
 (<0.001) NICKEL CONCENTRATION IN mg/L

### NOTES:

- 1) NO SITE CLEANUP STANDARDS WERE FOUND FOR NICKEL. SEMS USED LDEQ RECAP SCREENING STANDARD OF 0.073 mg/L.
- 2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR NICKEL.



330 0 330  
 APPROXIMATE SCALE IN FEET

DRAWN BY:	LDG	CHECKED BY:	<i>[Signature]</i>	DRAWING NO.
	01/20/14	APPROVED BY:	<i>[Signature]</i>	QTR/006

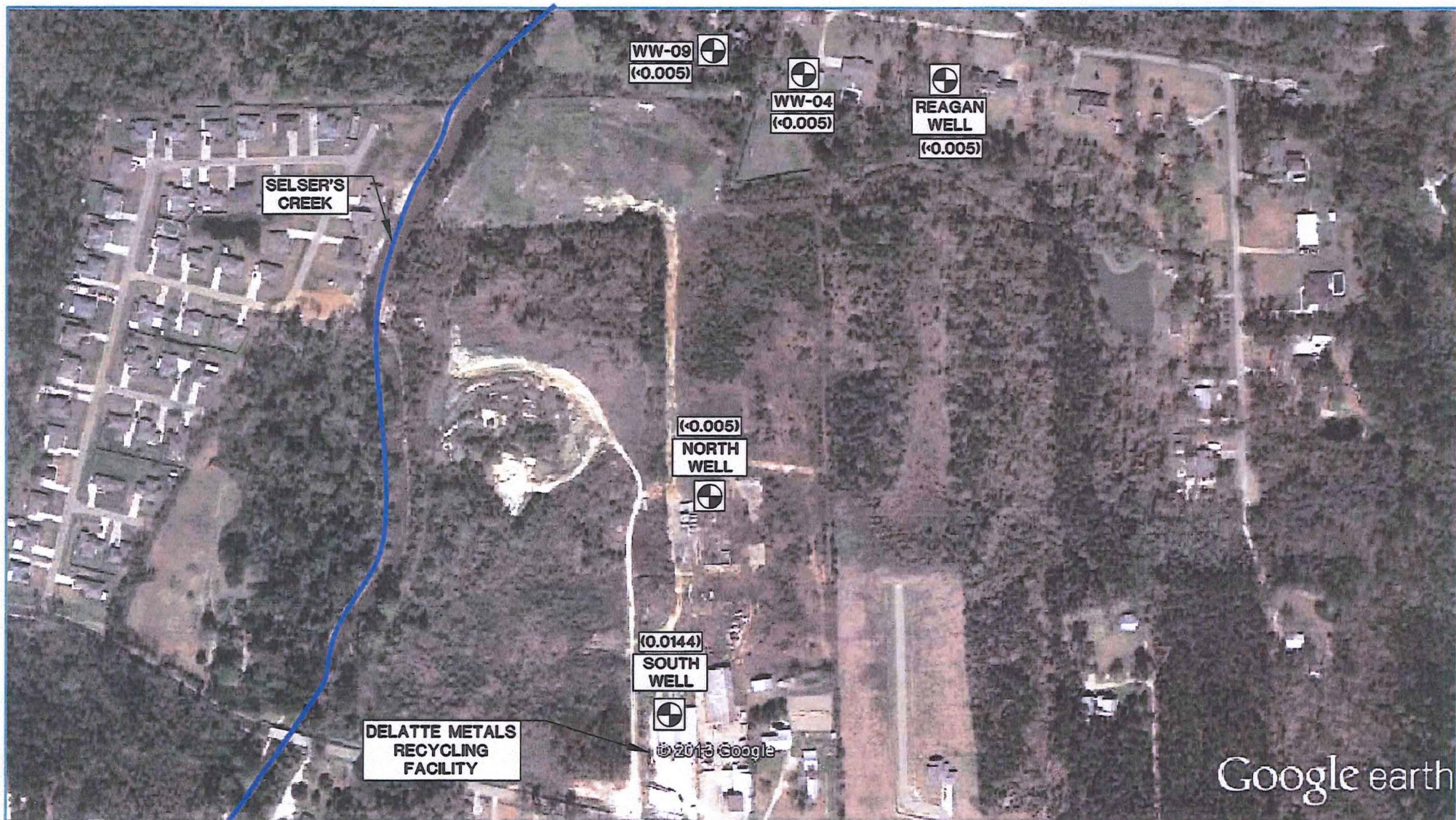
### FIGURE 7 WATER WELL NICKEL ISOCONCENTRATION MAP (FOURTH QUARTER 2013)

DELATTE METALS SUPERFUND SITE  
 PONCHATOULA, LOUISIANA  
 AGENCY INTEREST NO. 2328

PREPARED FOR:  
 LOUISIANA DEPARTMENT OF  
 ENVIRONMENTAL QUALITY

**SEMS Inc.**





REFERENCE: MAP TAKEN FROM GOOGLE EARTH

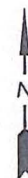
### LEGEND

- ⊕ WATER SUPPLY WELL
- mg/L MILLIGRAMS PER LITER
- (<0.005) ZINC CONCENTRATION IN mg/L

330 0 330  
APPROXIMATE SCALE IN FEET

### NOTES:

- 1) NO SITE CLEANUP STANDARDS WERE FOUND FOR ZINC. SEMS USED LDEQ RECAP SCREENING STANDARD OF 1.1 mg/L.
- 2) NO WELLS SAMPLED EXCEEDED LDEQ RECAP SCREENING STANDARD FOR ZINC.



### FIGURE 8 WATER WELL ZINC ISOCONCENTRATION MAP (FOURTH QUARTER 2013)

DELATTE METALS SUPERFUND SITE  
PONCHATOULA, LOUISIANA  
AGENCY INTEREST NO. 2328

PREPARED FOR:  
**LOUISIANA DEPARTMENT OF  
ENVIRONMENTAL QUALITY**

**SEMS Inc.**

DRAWN BY:	LDG	CHECKED BY:	<i>[Signature]</i>	DRAWING NO.
	01/20/14	APPROVED BY:	<i>[Signature]</i>	QTR/007



**ATTACHMENT A**

**FIELD DATA SHEETS & WASTE MANIFESTS**

# DELATTE METALS SUPERFUND SITE OPERATION AND MAINTENANCE ACTIVITY LOG

PAGE 1 OF 2

## PROJECT GENERAL INFORMATION

Client: <u>LDEQ</u>	Date: <u>12/9/13 - 12/12/13</u>
Facility #: <u>Delatte Metals Superfund Site</u>	Activities: <u>Notify facility of arrival. Inspect</u>
Address: <u>Weinberger Road, Ponchatoula, LA</u>	<u>facility monitoring wells and PRB for integrity.</u>
Project #: <u>207-0029</u>	<u>Gauge, and sample appropriate wells.</u>

## SEMS ACTIVITY DOCUMENTATION (Continued On Back)

Time (Military)	Notes & Observations
Arrived : ( <u>1200</u> )          Departed : ( <u>1600</u> )	Notified facility personnel of arrival : <u>YES</u> NO      Have H&S plan : <u>YES</u> NO  <div style="border: 1px solid black; padding: 5px;"> <p>Potentiometric data collection procedures: Locate monitoring wells, open to allow for water level equilibration, inspect/document well integrity, measure total well depth, measure depth-to-water (to 0.00'). Measure wells from least contaminated to most contaminated.</p> <p>Well purging procedures: Use low flow micro purge methods and monitor water quality characteristics. When water quality characteristics stabilize record characteristics and collect sample. Transport purge water to on-site 55-gallon drums for containment and disposal.</p> <p>Groundwater sample collection procedures: Collect samples with dedicated well equipment by low flow micro purge methods after water quality characteristics have stabilized. Transfer samples to a proper container (on ice) for transport to the designated lab for analyses. Ship samples for overnight delivery, with completed chain-of-custody documentation. Sample wells in the same order as they were purged.</p> </div>

## SEMS EQUIPMENT & MATERIALS USED

Task	Description	Accounting Code	Unit	Quantity
03	Operation, maintenance and related activities per well.		well	44
04	Surface Water sampling activities per well		well	5
09	Well Labels		each	1
10	Well Locks		each	1
11	Concrete Pad		each	1
12	Well cover		each	1
13	Repainting		each (well)	1
14	Post Replacement		each	1
15	Clearing Access to wells		each (clearing event)	1

## SEMS PERSONNEL INFORMATION

Employee Name: <u>Nick Rodchors</u>	Employee Signature: <u>[Signature]</u>
<b>SEMS, Inc.</b>	

## DELATTE METALS SUPERFUND SITE OPERATION AND MAINTENANCE ACTIVITY LOG

PAGE 2 OF 2

### SEMS EQUIPMENT & MATERIALS USED

[illegible]

Employee Name: Nick Rodchorst Employee Signature: \_\_\_\_\_

*SEMS, Inc.*

# Delatte Metals O&M PRB Inspection Checklist

Page 1 of 1

SEMS Project #: 207-0016

Field Crew:

Nick Rodchors  
Larry Broad

Date Inspected

12/11/2013

Is the soil overlying the PRB cracked, eroded, or show any other pathways that could allow for surface water to enter the subsurface?

PRB Cleared	PRB was cleared by LDEA clearing contractor during Q3 2013.
PRB Accessible	Yes
PRB Cracks Identified	<u>None</u>
PRB Erosion Identified	No erosion, but subsidence near the midsection of the PRB. Fill will be placed in 2014.
Photos Taken	No.

NOTES:

PRB=Permeable reactive barrier

## Page 1 of 1

Field Crew: Nick Rodenhart  
Larry Bizard

MS/MSD (Every 20 Samples)  
Field Duplicate (Every 10 Samples)

[illegible]



# Delatte Metals O&M Well Inspection Checklist

SEMS Project #:

207-0016

Field Crew:

Nick Rodchorst

Larry Brand

Well No.	Date Inspected	Wells Labeled	Wells Locked	Post Condition	Paint Needed	Pad Condition	Well Access	Standing/Ponded Water	Collision Damage	Frost Heaving	Casing Degradation	Well Subsidence	Photos Taken	Notes
BA-09A	12/12/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BA-09		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
MW-04		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
WW-09		NA	NA	NA	NA	NA	Yes	No	No	No	No	No	No	
WW-04	12/9/13	NA	NA	NA	NA	NA	Yes	No	No	No	No	No	No	
(b) (6) Well		NA	NA	NA	NA	NA	Yes	No	No	No	No	No	No	
BC-03	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BC-07	12/9/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
DW-04		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BC-19		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BC-25	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
MW-03	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	

# Delatte Metals O&M Well Inspection Checklist

SEMS Project #:

207-0016

Field Crew:

Nick Prodelor  
Larry Brand

Well No.	Date Inspected	Wells Labeled	Wells Locked	Post Condition	Paint Needed	Pad Condition	Well Access	Standing/Ponded Water	Collision Damage	Frost Heaving	Casing Degradation	Well Subsidence	Photos Taken	Notes
MW-06	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BB-01	12/9/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
South Well		NA	NA	NA	NA	NA	Yes	No	No	No	No	No	No	
BC-17		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
North Well		NA	NA	NA	NA	NA	Yes	No	No	No	No	No	No	
BC-21R		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BA-01A	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BA-01		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
DW-03	12/12/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
PW-04	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
DW-02	12/11/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BA-05A	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	

# Delatte Metals O&M Well Inspection Checklist

SEMS Project #:

207-0016

Field Crew:

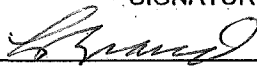

Nick Roderick  
Larry Brown

Well No.	Date Inspected	Wells Labeled	Wells Locked	Post Condition	Paint Needed	Pad Condition	Well Access	Standing/Ponded Water	Collision Damage	Frost Heaving	Casing Degradation	Well Subsidence	Photos Taken	Notes
BA-05	12/10/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
MW-A	12/11/13	Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
DW-01		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
MW-01		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BA-03A		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
BA-03		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	
MW-02		Yes	Yes	Good	No	Good	Yes	No	No	No	No	No	No	

# TAILGATE SAFETY MEETING

GENERAL INFORMATION			
Company	SEMS, INC		
Date	12/9/2013	Time	8:45
Job Number	207-0016		
Customer	LDEQ	Address	Weinberger Rd, Ponchatoula, LA
Job Location	Ponchatoula, LA		
Type of Work	Groundwater Sampling		
Protective Clothing/Equipment	Level D (gloves, long pants, safety boots)		

SAFETY TOPICS	
Chemical Hazards	Metals and Low pH (acidic groundwater)
Physical Hazards	Heat, bees/hornets, snakes, blades
Emergency Procedures	First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.
Hospital/Clinic	North Oaks Hospital
Phone	(985) 345-2700
Hospital Address	15790 Paul Vega Dr. Hammond, LA
Special Equipment	Level D
Other	

ATTENDEES	
NAME PRINTED	SIGNATURE
Larry Brand	
Nick Rockharg	
SITE SUPERVISOR	SIGNATURE

# TAILGATE SAFETY MEETING

## GENERAL INFORMATION

Company SEMS, INC  
Date 12/10/13 Time 8:00 Job Number 207-0016  
Customer LDEQ Address Weinberger Rd, Ponchatoula, LA  
Job Location Ponchatoula, LA  
Type of Work Groundwater Sampling  
Protective Clothing/Equipment Level D (gloves, long pants, safety boots)

## SAFETY TOPICS

Chemical Hazards Metals and Low pH (acidic groundwater)  
Physical Hazards Heat, bees/hornets, snakes, blades  
Emergency Procedures First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.  
Hospital/Clinic North Oaks Hospital Phone (985) 345-2700  
Hospital Address 15790 Paul Vega Dr. Hammond, LA  
Special Equipment Level D

Other \_\_\_\_\_

## ATTENDEES

NAME PRINTED

SIGNATURE

Larry Brand

Larry Brand

Nick Rodenhorn

Nick Rodenhorn

SITE SUPERVISOR

SIGNATURE

# TAILGATE SAFETY MEETING

## GENERAL INFORMATION

Company SEMS, INC  
Date 12/11/13 Time 7:45 Job Number 207-0016  
Customer LDEQ Address Weinberger Rd, Ponchatoula, LA  
Job Location Ponchatoula, LA  
Type of Work Groundwater Sampling  
Protective Clothing/Equipment Level D (gloves, long pants, safety boots)

## SAFETY TOPICS

Chemical Hazards Metals and Low pH (acidic groundwater)  
Physical Hazards Heat, bees/hornets, snakes, blades  
Emergency Procedures First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.  
Hospital/Clinic North Oaks Hospital Phone (985) 345-2700  
Hospital Address 15790 Paul Vega Dr. Hammond, LA  
Special Equipment Level D  
Other \_\_\_\_\_

## ATTENDEES

NAME PRINTED

Larry Brand

SIGNATURE



Nick Rockhorst

SITE SUPERVISOR

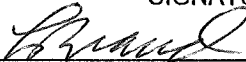



SIGNATURE

# TAILGATE SAFETY MEETING

GENERAL INFORMATION	
Company	SEMS, INC
Date	12/12/13
Time	7:15
Job Number	207-0016
Customer	LDEQ
Address	Weinberger Rd, Ponchatoula, LA
Job Location	Ponchatoula, LA
Type of Work	Groundwater Sampling
Protective Clothing/Equipment	Level D (gloves, long pants, safety boots)

SAFETY TOPICS	
Chemical Hazards	Metals and Low pH (acidic groundwater)
Physical Hazards	Heat, bees/hornets, snakes, blades
Emergency Procedures	First Aid, Call 911 and proceed to hospital. Meet at front entrance if problems occur.
Hospital/Clinic	North Oaks Hospital
Phone	(985) 345-2700
Hospital Address	15790 Paul Vega Dr. Hammond, LA
Special Equipment	Level D
Other	

ATTENDEES	
NAME PRINTED	SIGNATURE
<u>Larry Braud</u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u></u>	<u></u>
<u>Nick Backhaus</u>	<u></u>
SITE SUPERVISOR	SIGNATURE

# LOW-FLOW GROUNDWATER SAMPLING LOG

Project: Delatte Metals Superfund Site  
 Project No.: 207-0016  
 Site Location: Ponchatoula, Louisiana  
 Monitor Well No.: Reagan Well  
 Date Purged/Sampled: 12/9/13 Sampled By: NR/LB

@1125

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.  
 Static Depth to Groundwater (DTW): UNK ft.  
 Screen Length (SL) from Boring Logs: UNK ft.  
 Depth to Top of Well Screen (TD-SL): UNK ft.  
 Height of Water Column (H=TD-DTW): UNK ft.  
 Purge Flow Rate: \_\_\_\_\_ mL/min  
 Volume Purged: \_\_\_\_\_ gallons  
 Date/Time of Sample: 12/9/13 @1125 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☒ 4" Well (H x 0.653 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☐ Other: \_\_\_\_\_

## PURGING METHOD

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☒ Water Well  
☐ Other (Specify) \_\_\_\_\_

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☐ Bailer ☐ Dedicated ☐ Disposable  
☒ Other (Specify) Let water flow for 20 minutes

## LOW-FLOW MONITORING PARAMETERS

Time	Flow Rate	Temp.	Specific Conductivity	Dissolved Oxygen	pH	ORP	Turbidity	DTW
hr/min	mL/min	°C	mS/cm	mg/L	Standard Units	mV	NTU or FTU	feet
Targets	100 - 500 mL/min	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1	+/- 10%	+/- 10% (if >10 NTU or FTU)	<0.3 ft. or Top of Screen
<u>—</u>	<u>—</u>	<u>18.88</u>	<u>0.292</u>	<u>2.19</u>	<u>7.87</u>	<u>-175</u>	<u>2.5</u>	<u>—</u>

Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.  
 2. Take measurements every 3 to 5 minutes.

Total Metals Collected X Dissolved Metals Collected \_\_\_\_\_

SHEET 1 OF 1



# LOW-FLOW GROUNDWATER SAMPLING LOG

Project: Delatte Metals Superfund Site  
 Project No.: 207-0016  
 Site Location: Ponchatoula, Louisiana  
 Monitor Well No.: WW-04  
 Date Purged/Sampled: 12/9/13 Sampled By: NR/LB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.  
 Static Depth to Groundwater (DTW): UNK ft.  
 Screen Length (SL) from Boring Logs: UNK ft.  
 Depth to Top of Well Screen (TD-SL): UNK ft.  
 Height of Water Column (H=TD-DTW): UNK ft.  
 Purge Flow Rate: \_\_\_\_\_ mL/min  
 Volume Purged: \_\_\_\_\_ gallons  
 Date/Time of Sample: 12/9/13 @ 1140 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☒ 4" Well (H x 0.653 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☐ Other: \_\_\_\_\_

## PURGING METHOD

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☒ Water Well  
☐ Other (Specify)

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☐ Bailer ☐ Dedicated ☐ Disposable  
☒ Other (Specify) Let water flow for 20 minutes

## LOW-FLOW MONITORING PARAMETERS

Time	Flow Rate	Temp.	Specific Conductivity	Dissolved Oxygen	pH	ORP	Turbidity	DTW
hr/min	mL/min	°C	mS/cm	mg/L	Standard Units	mV	NTU or FTU	feet
Targets	100 - 500 mL/min	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1	+/- 10%	+/- 10% (if >10 NTU or FTU)	<0.3 ft. or Top of Screen
1140		17.34	0.297	3.99	9.09	-239	1.5	—

Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.  
 2. Take measurements every 3 to 5 minutes.

Total Metals Collected ☒ Dissolved Metals Collected \_\_\_\_\_

SHEET 1 OF 1

# LOW-FLOW GROUNDWATER SAMPLING LOG

Project: Delatte Metals Superfund Site  
 Project No.: 207-0016  
 Site Location: Ponchatoula, Louisiana  
 Monitor Well No.: South Well  
 Date Purged/Sampled: 12/9/13 Sampled By: NK/LB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.  
 Static Depth to Groundwater (DTW): UNK ft.  
 Screen Length (SL) from Boring Logs: UNK ft.  
 Depth to Top of Well Screen (TD-SL): UNK ft.  
 Height of Water Column (H=TD-DTW): UNK ft.  
 Purge Flow Rate: \_\_\_\_\_ mL/min  
 Volume Purged: \_\_\_\_\_ gallons  
 Date/Time of Sample: 12/9/13 @ 1515 Time

## WELL CASING VOLUME CALCULATIONS

- ☐ 2" Well (H x 0.163 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☒ 4" Well (H x 0.653 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☐ Other: \_\_\_\_\_

## PURGING METHOD

- ☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☒ Water Well  
☐ Other (Specify) \_\_\_\_\_

## METHOD OF SAMPLE COLLECTION

- ☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☐ Bailer ☐ Dedicated ☐ Disposable  
☒ Other (Specify) Let water flow for 20 minutes

## LOW-FLOW MONITORING PARAMETERS

Time	Flow Rate	Temp.	Specific Conductivity	Dissolved Oxygen	pH	ORP	Turbidity	DTW
hr/min	mL/min	°C	mS/cm	mg/L	Standard Units	mV	NTU or FTU	feet
Targets	100 - 500 mL/min	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1	+/- 10%	+/- 10% (if >10 NTU or FTU)	<0.3 ft. or Top of Screen
15:15	—	19.37	0.294	2.39	9.60	-156	1.9	—

Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.  
 2. Take measurements every 3 to 5 minutes.

Total Metals Collected ☒ Dissolved Metals Collected \_\_\_\_\_

SHEET 1 OF 1

# LOW-FLOW GROUNDWATER SAMPLING LOG

Project: Delatte Metals Superfund Site  
 Project No.: 207-0016  
 Site Location: Ponchatoula, Louisiana  
 Monitor Well No.: North Well  
 Date Purged/Sampled: 12/9/13 Sampled By: NK/LB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): UNK ft.  
 Static Depth to Groundwater (DTW): UNK ft.  
 Screen Length (SL) from Boring Logs: UNK ft.  
 Depth to Top of Well Screen (TD-SL): UNK ft.  
 Height of Water Column (H=TD-DTW): UNK ft.  
 Purge Flow Rate: \_\_\_\_\_ mL/min  
 Volume Purged: \_\_\_\_\_ gallons  
 Date/Time of Sample: 12/9/13 @ 1600 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☒ 4" Well (H x 0.653 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☐ Other: \_\_\_\_\_

## PURGING METHOD

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☒ Water Well  
☐ Other (Specify) \_\_\_\_\_

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☐ Bailer ☐ Dedicated ☐ Disposable  
☒ Other (Specify) Let water flow for 20 minutes

## LOW-FLOW MONITORING PARAMETERS

Time	Flow Rate	Temp.	Specific Conductivity	Dissolved Oxygen	pH	ORP	Turbidity	DTW
hr/min	mL/min	°C	mS/cm	mg/L	Standard Units	mV	NTU or FTU	feet
Targets	100 - 500 mL/min	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1	+/- 10%	+/- 10% (if > 10 NTU or FTU)	< 0.3 ft. or Top of Screen
<u>1600</u>	<u>—</u>	<u>20.44</u>	<u>0.293</u>	<u>1.00</u>	<u>8.82</u>	<u>242</u>	<u>1.8</u>	<u>—</u>

Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.  
 2. Take measurements every 3 to 5 minutes.

Total Metals Collected ☒ Dissolved Metals Collected ☐

SHEET 1 OF 1

# LOW-FLOW GROUNDWATER SAMPLING LOG

Project: Delatte Metals Superfund Site  
 Project No.: 207-0016  
 Site Location: Ponchatoula, Louisiana  
 Monitor Well No.: WW-09  
 Date Purged/Sampled: 12/12/13 Sampled By: PA/LB

## MONITOR WELL INFORMATION

Total Depth of Monitor Well (TD): 60 ft.  
 Static Depth to Groundwater (DTW): UNK ft.  
 Screen Length (SL) from Boring Logs: UNK ft.  
 Depth to Top of Well Screen (TD-SL): UNK ft.  
 Height of Water Column (H=TD-DTW): UNK ft.  
 Purge Flow Rate: \_\_\_\_\_ mL/min  
 Volume Purged: \_\_\_\_\_ gallons  
 Date/Time of Sample: 12/12/13 @ 1310 Time

## WELL CASING VOLUME CALCULATIONS

☐ 2" Well (H x 0.163 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☒ 4" Well (H x 0.653 gal/ft) \_\_\_\_\_ gal. (1 well volume) \_\_\_\_\_ gal. (3 well volumes)  
☐ Other: \_\_\_\_\_

## PURGING METHOD

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☒ Water Well  
☐ Other (Specify) \_\_\_\_\_

## METHOD OF SAMPLE COLLECTION

☐ Peristaltic Pump  
☐ Low-flow Submersible Pump  
☐ Bailer ☐ Dedicated ☐ Disposable  
☒ Other (Specify) Let water flow for 20 minutes

## LOW-FLOW MONITORING PARAMETERS

Time	Flow Rate	Temp.	Specific Conductivity	Dissolved Oxygen	pH	ORP	Turbidity	DTW
hr/min	mL/min	°C	mS/cm	mg/L	Standard Units	mV	NTU or FTU	feet
Targets	100 - 500 mL/min	+/- 1°C	+/- 3%	+/- 10%	+/- 0.1	+/- 10%	+/- 10% (if >10 NTU or FTU)	<0.3 ft. or Top of Screen
1310	—	16.19	0.184	4.85	7.98	-68	4.0	—

Notes: 1. Well is stable if 3 consecutive measurements of as many as 3 indicators are within their target ranges.  
 2. Take measurements every 3 to 5 minutes.

Total Metals Collected ☒ Dissolved Metals Collected ☐

SHEET 1 OF 1

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: **1** of **5**

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: SEMS Inc		Report To: Nick Rodenhorst		Attention: Brian Sullivan	
Address: 3801 N. Causeway Blvd.		Copy To: Brian Sullivan		Company Name: SEMS, Inc	
Metairie, LA 70002				Address: 3801 N. Causeway Blvd.	
Email To: nrodenhorst@semsinc.com		Purchase Order No.: 207-0029		Pace Quote Reference: 9893	
Phone: Fax:		Project Name: Delatte Metals		Pace Project Manager: Randy Shackelford	
Requested Due Date/TAT: 10 WD		Project Number: 84383		Pace Profile #:	
				<b>REGULATORY AGENCY</b>	
				<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____	
				Site Location: <b>LA</b> STATE: _____	

11. CEN #	Section D Required Client Information		Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl			NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Total Metals	Sulfide	Sulfate	Dissolved Metals Field Filtered																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Nick Rodenhorst / SEMS	12/12/13								

SAMPLER NAME AND SIGNATURE: Nick Rodenhorst		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Nick Rodenhorst					
SIGNATURE of SAMPLER: [Signature]					
DATE Signed (MM/DD/YY): 12/12/13					

CHAIN-OF-CUSTODY / Analytical Request Document

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<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: SEMS Inc		Report To: Nick Rodenhorst		Attention: Brian Sullivan	
Address: 3801 N. Causeway Blvd.		Copy To: Brian Sullivan		Company Name: SEMS, Inc	
Metairie, LA 70002				Address: 3801 N. Causeway Blvd.	
Email To: nrodehorst@semsinc.com		Purchase Order No.: 207-0029		Pace Quote Reference: 9893	
Phone: Fax:		Project Name: Delatte Metals		Pace Project Manager: Randy Shackelford	
Requested Due Date/TAT: 10 WD		Project Number: 84383		Pace Profile #:	
				<b>REGULATORY AGENCY</b>	
				<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	
				<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
				Site Location	
				STATE: LA	

ITEM #	Section D Required Client Information		Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	SAMPLE ID (A-Z, 0-9 /, -) Sample IDs MUST BE UNIQUE	MATRIX CODE	CODE	COMPOSITE START			COMPOSITE END/GRAB	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>			HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Total Metals	Sulfide	Sulfate		Dissolved Metals <i>Lab Filtered</i>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Nick Rodenhorst / SEMS	12/12/13					

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Nick Rodenhorst					
SIGNATURE of SAMPLER: [Signature]					
DATE Signed (MM/DD/YY): 12/12/13					

# CHAIN-OF-CUSTODY / Analytical Request Document

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Page: **3** of **5**

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Address: 3801 N. Causeway Blvd.		Copy To: Brian Sullivan		Company Name: SEMS, Inc	
Metairie, LA 70002				Address: 3801 N. Causeway Blvd.	
Email To: nrodenhorst@semsinc.com		Purchase Order No.: 207-0029		Pace Quote Reference: 9893	
Phone: _____ Fax: _____		Project Name: Delatte Metals		Pace Project Manager: Randy Shackelford	
Requested Due Date/TAT: 10 WD		Project Number: 84383		Pace Profile #:	
				<b>REGULATORY AGENCY</b>	
				<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____	
				Site Location: <u>LA</u> STATE: _____	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																				
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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Nick Rodenhorst	12/12/13					

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Nick Rodenhorst					
SIGNATURE of SAMPLER: [Signature]					
DATE Signed (MM/DD/YY): 12/12/13					

**CHAIN-OF-CUSTODY / Analytical Request Document**  
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<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: SEMS Inc		Report To: Nick Rodenhorst		Attention: Brian Sullivan	
Address: 3801 N. Causeway Blvd.		Copy To: Brian Sullivan		Company Name: SEMS, Inc	
Metairie, LA 70002				Address: 3801 N. Causeway Blvd.	
Email To: nrodenhorst@semsinc.com		Purchase Order No.: 207-0029		Pace Quote Reference: 9893	
Phone: Fax:		Project Name: Delatte Metals		Pace Project Manager: Randy Shackelford	
Requested Due Date/TAT: 10 WD		Project Number: 84383		Pace Profile #:	
				<b>REGULATORY AGENCY</b>	
				<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	
				<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
				Site Location: LA	
				STATE: LA	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↓	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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## CHAIN-OF-CUSTODY / Analytical Request Document

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Page: <u>5</u> of <u>5</u>
<b>1624527</b>
<b>REGULATORY AGENCY</b>
<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____
Site Location: _____
STATE: _____

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: <u>SEMS Inc.</u>		Report To: <u>Nick Rodchorski</u>		Attention: _____	
Address: <u>3801 N. Causeway</u>		Copy To: <u>Brian Sullivan</u>		Company Name: _____	
Email To: <u>nrodchorski@semsinc.com</u>		Purchase Order No.: <u>207-0029</u>		Address: _____	
Phone: _____ Fax: _____		Project Name: <u>Delatte Metals</u>		Pace Quote Reference: _____	
Requested Due Date/TAT: <u>10 WD</u>		Project Number: <u>84783</u>		Pace Project Manager: <u>Randy Shackelford</u>	
				Pace Profile #: _____	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↓	Requested Analysis Filtered (Y/N)				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other		Total Metals	Sulfide	Sulfate	Dissolved Metals (Lab Filtered)			
					DATE	TIME	DATE	TIME																		
1	DW-03	WT	WT	G			12/12/13	906	3	1	1															
2	MS-DW-03							906	3	1	1															
3	MSD-DW-03							906	3	1	1															
4	GSGP-22							811	3	1	1															
5	BA-09A							1030	1		1															
6	BA-09							1123	3	1	1															
7	Duplicate #5							1123	3	1	1															
8	GSGP-06							1229	1		1															
9	MW-04							1259	2	1	1															
10	WW-09							1310	1		1															
11	GSGP-01 (03)							1421	1		1															
12	TEPA-9G							1448	3	1	1															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Nick Rodchorski	12/12/13					

SAMPLER NAME AND SIGNATURE

**ATTACHMENT B**  
**LABORATORY ANALYTICAL REPORT**



Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

January 08, 2014

Nick Rodehorst  
SEMS, Inc.  
3801 N.Causeway Blvd  
Suite 209  
Metairie, LA 70002

RE: Project 20162962  
Project ID: Delatte Metals 84383

Dear Nick Rodehorst:

Enclosed are the analytical results for sample(s) received by the laboratory on December 13, 2013. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Randy Shackelford  
william.shackelford@pacelabs.com



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.





## Laboratory Certifications

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

---

Project: 20162962

Client: SEMS, Inc.

Project ID: Delatte Metals 84383

---

Washington Department of Ecology C2078  
Oregon Environmental Laboratory Accreditation - LA200001  
U.S. Dept. of Agriculture Foreign Soil Import P330-10-00119  
Pennsylvania Dept. of Env Protection (NELAC) 68-04202  
Texas Commission on Env. Quality (NELAC) T104704405-09-TX  
Kansas Department of Health and Environment (NELAC) E-10266  
Florida Department of Health (NELAC) E87595  
Oklahoma Department of Environmental Quality - 2010-139  
Illinois Environmental Protection Agency - 0025721  
California Env. Lab Accreditation Program Branch - 11277CA  
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006





## Sample Cross Reference

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

**Project:** 20162962

**Client:** SEMS, Inc.

**Project ID:** Delatte Metals 84383

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
CA-51	201150624	Water	09-Dec-13 09:15	13-Dec-13 10:45
CA-41	201150625	Water	09-Dec-13 09:30	13-Dec-13 10:45
BRIDGE	201150626	Water	09-Dec-13 09:45	13-Dec-13 10:45
CL-05	201150627	Water	09-Dec-13 10:30	13-Dec-13 10:45
CL-19	201150628	Water	09-Dec-13 11:05	13-Dec-13 10:45
(b) (6) WELL	201150629	Water	09-Dec-13 11:25	13-Dec-13 10:45
WW-04	201150630	Water	09-Dec-13 11:40	13-Dec-13 10:45
BC-07	201150631	Water	09-Dec-13 13:16	13-Dec-13 10:45
DUPLICATE #1	201150632	Water	09-Dec-13 13:16	13-Dec-13 10:45
DW-04	201150633	Water	09-Dec-13 13:43	13-Dec-13 10:45
BC-19	201150634	Water	09-Dec-13 14:32	13-Dec-13 10:45
BB-01 (MS/MSD)	201150636	Water	09-Dec-13 15:00	13-Dec-13 10:45
SOUTH WELL	201150637	Water	09-Dec-13 15:15	13-Dec-13 10:45
BC-17	201150638	Water	09-Dec-13 15:55	13-Dec-13 10:45
NORTH WELL	201150639	Water	09-Dec-13 16:00	13-Dec-13 10:45
BC-21R	201150640	Water	09-Dec-13 16:28	13-Dec-13 10:45
DUPLICATE #2	201150641	Water	09-Dec-13 16:28	13-Dec-13 10:45
BC-25	201150642	Water	10-Dec-13 09:13	13-Dec-13 10:45
MW-03	201150643	Water	10-Dec-13 09:46	13-Dec-13 10:45
MW-06	201150644	Water	10-Dec-13 10:23	13-Dec-13 10:45
GSGP-18	201150645	Water	10-Dec-13 10:50	13-Dec-13 10:45
GSGP-19	201150646	Water	10-Dec-13 11:08	13-Dec-13 10:45
BC-03	201150647	Water	10-Dec-13 13:09	13-Dec-13 10:45
BA-01A	201150648	Water	10-Dec-13 13:40	13-Dec-13 10:45
BA-01	201150649	Water	10-Dec-13 14:23	13-Dec-13 10:45
PW-04	201150650	Water	10-Dec-13 14:49	13-Dec-13 10:45
GSGP-15	201150651	Water	10-Dec-13 15:36	13-Dec-13 10:45
BA-05A (MS/MSD)	201150652	Water	10-Dec-13 16:33	13-Dec-13 10:45
BA-05	201150653	Water	10-Dec-13 16:17	13-Dec-13 10:45
DW-02	201150654	Water	11-Dec-13 08:13	13-Dec-13 10:45
MW-A	201150655	Water	11-Dec-13 08:43	13-Dec-13 10:45
DUPLICATE #3	201150656	Water	11-Dec-13 08:13	13-Dec-13 10:45
BA-03A	201150657	Water	11-Dec-13 09:52	13-Dec-13 10:45
BA-03	201150658	Water	11-Dec-13 09:18	13-Dec-13 10:45
DW-01	201150659	Water	11-Dec-13 16:00	13-Dec-13 10:45
MW-01	201150660	Water	11-Dec-13 16:31	13-Dec-13 10:45
DUPLICATE #4	201150661	Water	11-Dec-13 16:31	13-Dec-13 10:45
MW-02	201150662	Water	11-Dec-13 13:09	13-Dec-13 10:45
TEPA-P10	201150663	Water	11-Dec-13 10:22	13-Dec-13 10:45
TEPA-P9	201150664	Water	11-Dec-13 10:46	13-Dec-13 10:45
TEPA-P7D	201150665	Water	11-Dec-13 14:00	13-Dec-13 10:45
TEPA-P6	201150666	Water	11-Dec-13 13:52	13-Dec-13 10:45
TEPA-1H	201150667	Water	11-Dec-13 14:53	13-Dec-13 10:45



## Sample Cross Reference

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Project: 20162962

Client: SEMS, Inc.

Project ID: Delatte Metals 84383

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
TEPA-6H	201150668	Water	11-Dec-13 15:16	13-Dec-13 10:45
DW-03 (MS/MSD)	201150669	Water	12-Dec-13 09:06	13-Dec-13 10:45
GSGP-22	201150670	Water	12-Dec-13 08:11	13-Dec-13 10:45
BA-09A	201150671	Water	12-Dec-13 10:30	13-Dec-13 10:45
BA-09	201150672	Water	12-Dec-13 11:23	13-Dec-13 10:45
DUPLICATE #5	201150673	Water	12-Dec-13 11:23	13-Dec-13 10:45
GSGP-06	201150674	Water	12-Dec-13 12:29	13-Dec-13 10:45
MW-04	201150675	Water	12-Dec-13 12:59	13-Dec-13 10:45
WW-09	201150676	Water	12-Dec-13 13:10	13-Dec-13 10:45
GSGP-01 (03)	201150677	Water	12-Dec-13 14:21	13-Dec-13 10:45
TEPA-9H (9G)	201150678	Water	12-Dec-13 14:48	13-Dec-13 10:45



## Project Narrative

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

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Project: 20162962

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**Sample Receipt Condition:**

All samples were received in accordance with EPA protocol.

**Holding Times:**

All holding times were met.

**Blanks:**

All blank results were below reporting limits.

**Laboratory Control Samples:**

All LCS recoveries were within QC limits.

**Matrix Spikes and Duplicates:**

MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.





## QC Cross Reference

Pace Analytical Services, Inc.  
1000 Riverbend Blvd, Suite F  
St. Rose, LA 70087  
(504) 469-0333

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Project: 20162962

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Analytical Method	Batch	Sample used for QC
EPA 6020	223427	Project sample CA-51
EPA 6020	223429	Project sample BB-01 (MS/MSD)
EPA 6020	223430	Project sample BA-05A (MS/MSD)
EPA 6020	223431	Project sample DW-03 (MS/MSD)
SM 4500-S D	223451	Project sample DW-03 (MS/MSD)
ASTM D516-90	223453	Project sample DW-03 (MS/MSD)

---

Narrative1 1/8/2014 14:41:12

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.

Client sample means a sample from the same client but in a different project was used.

Batch sample means a sample from a different client was used.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CA-51

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150624

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Metals, ICP-MS, Dissolved

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	1.32		1.00		18-Dec-13 14:33 KJR
7440-43-9	Cadmium, Dissolved	1	ND		1.00		18-Dec-13 14:33 KJR
7439-92-1	Lead, Dissolved	1	ND		1.00		18-Dec-13 14:33 KJR
7439-96-5	Manganese, Dissolved	1	70.6		1.00		18-Dec-13 14:33 KJR
7440-02-0	Nickel, Dissolved	1	1.09		1.00		18-Dec-13 14:33 KJR
7440-66-6	Zinc, Dissolved	1	5.89		5.00		18-Dec-13 14:33 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CA-51

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150624

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.97		1.00		17-Dec-13 19:16 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:16 KJR
7439-92-1	Lead	1	3.45		1.00		17-Dec-13 19:16 KJR
7439-96-5	Manganese	1	137.		1.00		17-Dec-13 19:16 KJR
7440-02-0	Nickel	1	2.41		1.00		17-Dec-13 19:16 KJR
7440-66-6	Zinc	1	24.8		5.00		17-Dec-13 19:16 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

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Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CA-41

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150625

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Metals, ICP-MS, Dissolved

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	1.36		1.00		18-Dec-13 15:10 KJR
7440-43-9	Cadmium, Dissolved	1	ND		1.00		18-Dec-13 15:10 KJR
7439-92-1	Lead, Dissolved	1	ND		1.00		18-Dec-13 15:10 KJR
7439-96-5	Manganese, Dissolved	1	69.5		1.00		18-Dec-13 15:10 KJR
7440-02-0	Nickel, Dissolved	1	1.09		1.00		18-Dec-13 15:10 KJR
7440-66-6	Zinc, Dissolved	1	6.20		5.00		18-Dec-13 15:10 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CA-41

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150625

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.90		1.00		17-Dec-13 19:21 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:21 KJR
7439-92-1	Lead	1	3.29		1.00		17-Dec-13 19:21 KJR
7439-96-5	Manganese	1	130.		1.00		17-Dec-13 19:21 KJR
7440-02-0	Nickel	1	2.19		1.00		17-Dec-13 19:21 KJR
7440-66-6	Zinc	1	28.3		5.00		17-Dec-13 19:21 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

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Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd, Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BRIDGE  
Project ID: Delatte Metals 84383  
Lab ID: 201150626  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Dissolved

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223427

Collected: 09-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	1.26		1.00		18-Dec-13 15:14 KJR
7440-43-9	Cadmium, Dissolved	1	ND		1.00		18-Dec-13 15:14 KJR
7439-92-1	Lead, Dissolved	1	ND		1.00		18-Dec-13 15:14 KJR
7439-96-5	Manganese, Dissolved	1	56.2		1.00		18-Dec-13 15:14 KJR
7440-02-0	Nickel, Dissolved	1	1.13		1.00		18-Dec-13 15:14 KJR
7440-66-6	Zinc, Dissolved	1	12.4		5.00		18-Dec-13 15:14 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BRIDGE

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150626

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.85		1.00		17-Dec-13 19:25 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:25 KJR
7439-92-1	Lead	1	3.36		1.00		17-Dec-13 19:25 KJR
7439-96-5	Manganese	1	120.		1.00		17-Dec-13 19:25 KJR
7440-02-0	Nickel	1	2.22		1.00		17-Dec-13 19:25 KJR
7440-66-6	Zinc	1	29.0		5.00		17-Dec-13 19:25 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

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Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CL-05

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150627

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Collected: 09-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Dissolved

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	ND		1.00		18-Dec-13 15:19 KJR
7440-43-9	Cadmium, Dissolved	1	ND		1.00		18-Dec-13 15:19 KJR
7439-92-1	Lead, Dissolved	1	6.69		1.00		18-Dec-13 15:19 KJR
7439-96-5	Manganese, Dissolved	1	243.		1.00		18-Dec-13 15:19 KJR
7440-02-0	Nickel, Dissolved	1	4.09		1.00		18-Dec-13 15:19 KJR
7440-66-6	Zinc, Dissolved	1	40.1		5.00		18-Dec-13 15:19 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CL-05

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150627

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.15		1.00		17-Dec-13 19:30 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:30 KJR
7439-92-1	Lead	1	11.2		1.00		17-Dec-13 19:30 KJR
7439-96-5	Manganese	1	300.		1.00		17-Dec-13 19:30 KJR
7440-02-0	Nickel	1	4.82		1.00		17-Dec-13 19:30 KJR
7440-66-6	Zinc	1	49.5		5.00		17-Dec-13 19:30 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:14

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CL-19

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150628

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Metals, ICP-MS, Dissolved

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	ND		1.00		18-Dec-13 15:23 KJR
7440-43-9	Cadmium, Dissolved	1	ND		1.00		18-Dec-13 15:23 KJR
7439-92-1	Lead, Dissolved	1	ND		1.00		18-Dec-13 15:23 KJR
7439-96-5	Manganese, Dissolved	1	41.8		1.00		18-Dec-13 15:23 KJR
7440-02-0	Nickel, Dissolved	1	ND		1.00		18-Dec-13 15:23 KJR
7440-66-6	Zinc, Dissolved	1	ND		5.00		18-Dec-13 15:23 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: CL-19

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150628

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		17-Dec-13 19:34 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:34 KJR
7439-92-1	Lead	1	1.82		1.00		17-Dec-13 19:34 KJR
7439-96-5	Manganese	1	41.3		1.00		17-Dec-13 19:34 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 19:34 KJR
7440-66-6	Zinc	1	5.36		5.00		17-Dec-13 19:34 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: (b) (6) WELL

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150629

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.57		1.00		17-Dec-13 19:48 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:48 KJR
7439-92-1	Lead	1	1.45		1.00		17-Dec-13 19:48 KJR
7439-96-5	Manganese	1	23.3		1.00		17-Dec-13 19:48 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 19:48 KJR
7440-66-6	Zinc	1	ND		5.00		17-Dec-13 19:48 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd, Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: WW-04

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150630

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		17-Dec-13 19:53 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:53 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 19:53 KJR
7439-96-5	Manganese	1	3.15		1.00		17-Dec-13 19:53 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 19:53 KJR
7440-66-6	Zinc	1	ND		5.00		17-Dec-13 19:53 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BC-07

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150631

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Collected: 09-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.08		1.00		17-Dec-13 19:57 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 19:57 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 19:57 KJR
7439-96-5	Manganese	1	38.7		1.00		17-Dec-13 19:57 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 19:57 KJR
7440-66-6	Zinc	1	ND		5.00		17-Dec-13 19:57 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DUPLICATE #1

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150632

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.12		1.00		17-Dec-13 20:02 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 20:02 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 20:02 KJR
7439-96-5	Manganese	1	40.1		1.00		17-Dec-13 20:02 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 20:02 KJR
7440-66-6	Zinc	1	ND		5.00		17-Dec-13 20:02 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DW-04  
Project ID: Delatte Metals 84383  
Lab ID: 201150633  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223429  
Collected: 09-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	2.68		1.00		17-Dec-13 20:06 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 20:06 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 20:06 KJR
7439-96-5	Manganese	1	51.7		1.00		17-Dec-13 20:06 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 20:06 KJR
7440-66-6	Zinc	1	5.49		5.00		17-Dec-13 20:06 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BC-19

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150634

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Collected: 09-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		17-Dec-13 20:11 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 20:11 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 20:11 KJR
7439-96-5	Manganese	1	22.6		1.00		17-Dec-13 20:11 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 20:11 KJR
7440-66-6	Zinc	1	ND		5.00		17-Dec-13 20:11 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:15

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BB-01 (MS/MSD)

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150636

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	4.73		1.00		17-Dec-13 14:30 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 14:30 KJR
7439-92-1	Lead	1	5.31		1.00		17-Dec-13 14:30 KJR
7439-96-5	Manganese	1	3.14		1.00		17-Dec-13 14:30 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 14:30 KJR
7440-66-6	Zinc	1	ND		5.00		17-Dec-13 14:30 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd, Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: SOUTH WELL

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150637

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		17-Dec-13 20:15 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 20:15 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 20:15 KJR
7439-96-5	Manganese	1	3.85		1.00		17-Dec-13 20:15 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 20:15 KJR
7440-66-6	Zinc	1	14.4		5.00		17-Dec-13 20:15 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BC-17

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150638

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.83		1.00		17-Dec-13 20:20 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 20:20 KJR
7439-92-1	Lead	1	66.3		1.00		17-Dec-13 20:20 KJR
7439-96-5	Manganese	1	288.		1.00		17-Dec-13 20:20 KJR
7440-02-0	Nickel	1	1.16		1.00		17-Dec-13 20:20 KJR
7440-66-6	Zinc	1	6.36		5.00		17-Dec-13 20:20 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: NORTH WELL

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150639

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 09-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		17-Dec-13 20:25 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 20:25 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 20:25 KJR
7439-96-5	Manganese	1	3.66		1.00		17-Dec-13 20:25 KJR
7440-02-0	Nickel	1	ND		1.00		17-Dec-13 20:25 KJR
7440-66-6	Zinc	1	ND		5.00		17-Dec-13 20:25 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BC-21R

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150640

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223429

Method: EPA 6020

Collected: 09-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		17-Dec-13 20:29 KJR
7440-43-9	Cadmium	1	ND		1.00		17-Dec-13 20:29 KJR
7439-92-1	Lead	1	ND		1.00		17-Dec-13 20:29 KJR
7439-96-5	Manganese	1	72.6		1.00		17-Dec-13 20:29 KJR
7440-02-0	Nickel	1	1.38		1.00		17-Dec-13 20:29 KJR
7440-66-6	Zinc	1	5.28		5.00		17-Dec-13 20:29 KJR

6 compound(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol 1/8/2014 14:41:16  
Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DUPLICATE #2  
Project ID: Delatte Metals 84383  
Lab ID: 201150641  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223430  
Collected: 09-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 16:22 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 16:22 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 16:22 KJR
7439-96-5	Manganese	1	77.8		1.00		18-Dec-13 16:22 KJR
7440-02-0	Nickel	1	1.50		1.00		18-Dec-13 16:22 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 16:22 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BC-25

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150642

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Collected: 10-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 16:27 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 16:27 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 16:27 KJR
7439-96-5	Manganese	1	183.		1.00		18-Dec-13 16:27 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 16:27 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 16:27 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-03

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150643

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 16:41 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 16:41 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 16:41 KJR
7439-96-5	Manganese	1	816.		1.00		18-Dec-13 16:41 KJR
7440-02-0	Nickel	1	1.28		1.00		18-Dec-13 16:41 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 16:41 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-06

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150644

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	2.12		1.00		18-Dec-13 16:45 KJR
7440-43-9	Cadmium	1	52.7		1.00		18-Dec-13 16:45 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 16:45 KJR
7439-96-5	Manganese	1	2580		1.00		18-Dec-13 16:45 KJR
7440-02-0	Nickel	1	26.0		1.00		18-Dec-13 16:45 KJR
7440-66-6	Zinc	1	85.6		5.00		18-Dec-13 16:45 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-18

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150645

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Metals, ICP-MS, Dissolved

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	1.83		1.00		18-Dec-13 15:28 KJR
7440-43-9	Cadmium, Dissolved	1	117.		1.00		18-Dec-13 15:28 KJR
7439-92-1	Lead, Dissolved	1	10.4		1.00		18-Dec-13 15:28 KJR
7439-96-5	Manganese, Dissolved	1	2460		1.00		18-Dec-13 15:28 KJR
7440-02-0	Nickel, Dissolved	1	61.6		1.00		18-Dec-13 15:28 KJR
7440-66-6	Zinc, Dissolved	1	267.		5.00		18-Dec-13 15:28 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-18  
Project ID: Delatte Metals 84383  
Lab ID: 201150645  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223430  
Collected: 10-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	9.18		1.00		18-Dec-13 16:50 KJR
7440-43-9	Cadmium	1	44.1		1.00		18-Dec-13 16:50 KJR
7439-92-1	Lead	1	70.3		1.00		18-Dec-13 16:50 KJR
7439-96-5	Manganese	1	6000		1.00		18-Dec-13 16:50 KJR
7440-02-0	Nickel	1	116.		1.00		18-Dec-13 16:50 KJR
7440-66-6	Zinc	1	320.		5.00		18-Dec-13 16:50 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-19

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150646

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Collected: 10-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	6.26		1.00		18-Dec-13 16:54 KJR
7440-43-9	Cadmium	1	55.3		1.00		18-Dec-13 16:54 KJR
7439-92-1	Lead	1	1.75		1.00		18-Dec-13 16:54 KJR
7439-96-5	Manganese	1	2100		1.00		18-Dec-13 16:54 KJR
7440-02-0	Nickel	1	46.2		1.00		18-Dec-13 16:54 KJR
7440-66-6	Zinc	1	149.		5.00		18-Dec-13 16:54 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:16

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BC-03

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150647

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 16:59 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 16:59 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 16:59 KJR
7439-96-5	Manganese	1	16.6		1.00		18-Dec-13 16:59 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 16:59 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 16:59 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd, Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-01A

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150648

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	7.93		1.00		18-Dec-13 17:03 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 17:03 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 17:03 KJR
7439-96-5	Manganese	1	24.3		1.00		18-Dec-13 17:03 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 17:03 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 17:03 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-01

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150649

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Collected: 10-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.38		1.00		18-Dec-13 17:08 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 17:08 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 17:08 KJR
7439-96-5	Manganese	1	1030		1.00		18-Dec-13 17:08 KJR
7440-02-0	Nickel	1	21.5		1.00		18-Dec-13 17:08 KJR
7440-66-6	Zinc	1	23.2		5.00		18-Dec-13 17:08 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: PW-04  
Project ID: Delatte Metals 84383  
Lab ID: 201150650  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223430  
Collected: 10-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	3.08		1.00		18-Dec-13 17:12 KJR
7440-43-9	Cadmium	1	1.25		1.00		18-Dec-13 17:12 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 17:12 KJR
7439-96-5	Manganese	1	987.		1.00		18-Dec-13 17:12 KJR
7440-02-0	Nickel	1	20.2		1.00		18-Dec-13 17:12 KJR
7440-66-6	Zinc	1	52.8		5.00		18-Dec-13 17:12 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-15

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150651

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Metals, ICP-MS, Dissolved

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	8.10		1.00		18-Dec-13 15:32 KJR
7440-43-9	Cadmium, Dissolved	1	6.28		1.00		18-Dec-13 15:32 KJR
7439-92-1	Lead, Dissolved	1	2.14		1.00		18-Dec-13 15:32 KJR
7439-96-5	Manganese, Dissolved	1	786.		1.00		18-Dec-13 15:32 KJR
7440-02-0	Nickel, Dissolved	1	28.6		1.00		18-Dec-13 15:32 KJR
7440-66-6	Zinc, Dissolved	1	62.6		5.00		18-Dec-13 15:32 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-15

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150651

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	8.32		1.00		18-Dec-13 17:17 KJR
7440-43-9	Cadmium	1	6.60		1.00		18-Dec-13 17:17 KJR
7439-92-1	Lead	1	2.64		1.00		18-Dec-13 17:17 KJR
7439-96-5	Manganese	1	808.		1.00		18-Dec-13 17:17 KJR
7440-02-0	Nickel	1	29.4		1.00		18-Dec-13 17:17 KJR
7440-66-6	Zinc	1	62.8		5.00		18-Dec-13 17:17 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-05A (MS/MSD)  
Project ID: Delatte Metals 84383  
Lab ID: 201150652  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223430

Collected: 10-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.90		1.00		18-Dec-13 16:04 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 16:04 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 16:04 KJR
7439-96-5	Manganese	1	23.4		1.00		18-Dec-13 16:04 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 16:04 KJR
7440-66-6	Zinc	1	7.99		5.00		18-Dec-13 16:04 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-05

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150653

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 10-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.62		1.00		18-Dec-13 17:21 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 17:21 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 17:21 KJR
7439-96-5	Manganese	1	13300	E	1.00		18-Dec-13 17:21 KJR
7440-02-0	Nickel	1	39.3		1.00		18-Dec-13 17:21 KJR
7440-66-6	Zinc	1	6.40		5.00		18-Dec-13 17:21 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

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Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DW-02  
Project ID: Delatte Metals 84383  
Lab ID: 201150654  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223430  
Collected: 11-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	14.4		1.00		18-Dec-13 17:35 KJR
7440-43-9	Cadmium	1	18.4		1.00		18-Dec-13 17:35 KJR
7439-92-1	Lead	1	15.4		1.00		18-Dec-13 17:35 KJR
7439-96-5	Manganese	1	7570		1.00		18-Dec-13 17:35 KJR
7440-02-0	Nickel	1	292.		1.00		18-Dec-13 17:35 KJR
7440-66-6	Zinc	1	598.		5.00		18-Dec-13 17:35 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-A

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150655

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 17:40 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 17:40 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 17:40 KJR
7439-96-5	Manganese	1	8.79		1.00		18-Dec-13 17:40 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 17:40 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 17:40 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DUPLICATE #3  
Project ID: Delatte Metals 84383  
Lab ID: 201150656  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223430  
Collected: 11-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	14.4		1.00		18-Dec-13 17:44 KJR
7440-43-9	Cadmium	1	17.6		1.00		18-Dec-13 17:44 KJR
7439-92-1	Lead	1	14.7		1.00		18-Dec-13 17:44 KJR
7439-96-5	Manganese	1	7740		1.00		18-Dec-13 17:44 KJR
7440-02-0	Nickel	1	295.		1.00		18-Dec-13 17:44 KJR
7440-66-6	Zinc	1	607.		5.00		18-Dec-13 17:44 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-03A

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150657

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	1.14		1.00		18-Dec-13 17:49 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 17:49 KJR
7439-92-1	Lead	1	1.33		1.00		18-Dec-13 17:49 KJR
7439-96-5	Manganese	1	52.7		1.00		18-Dec-13 17:49 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 17:49 KJR
7440-66-6	Zinc	1	6.40		5.00		18-Dec-13 17:49 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-03

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150658

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	2.08		1.00		18-Dec-13 17:53 KJR
7440-43-9	Cadmium	1	108.		1.00		18-Dec-13 17:53 KJR
7439-92-1	Lead	1	104.		1.00		18-Dec-13 17:53 KJR
7439-96-5	Manganese	1	2390		1.00		18-Dec-13 17:53 KJR
7440-02-0	Nickel	1	61.8		1.00		18-Dec-13 17:53 KJR
7440-66-6	Zinc	1	253.		5.00		18-Dec-13 17:53 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DW-01

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150659

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	128.		1.00		18-Dec-13 17:58 KJR
7440-43-9	Cadmium	1	3.33		1.00		18-Dec-13 17:58 KJR
7439-92-1	Lead	1	1.13		1.00		18-Dec-13 17:58 KJR
7439-96-5	Manganese	1	1330		1.00		18-Dec-13 17:58 KJR
7440-02-0	Nickel	1	11.4		1.00		18-Dec-13 17:58 KJR
7440-66-6	Zinc	1	40.1		5.00		18-Dec-13 17:58 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-01

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150660

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223430

Method: EPA 6020

Collected: 11-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	18.0		1.00		18-Dec-13 18:02 KJR
7440-43-9	Cadmium	1	9.79		1.00		18-Dec-13 18:02 KJR
7439-92-1	Lead	1	12.3		1.00		18-Dec-13 18:02 KJR
7439-96-5	Manganese	1	4870		1.00		18-Dec-13 18:02 KJR
7440-02-0	Nickel	1	155.		1.00		18-Dec-13 18:02 KJR
7440-66-6	Zinc	1	146.		5.00		18-Dec-13 18:02 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:17

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DUPLICATE #4

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150661

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Collected: 11-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	16.8		1.00		18-Dec-13 18:43 KJR
7440-43-9	Cadmium	1	3.70		1.00		18-Dec-13 18:43 KJR
7439-92-1	Lead	1	5.52		1.00		18-Dec-13 18:43 KJR
7439-96-5	Manganese	1	4880		1.00		18-Dec-13 18:43 KJR
7440-02-0	Nickel	1	157.		1.00		18-Dec-13 18:43 KJR
7440-66-6	Zinc	1	140.		5.00		18-Dec-13 18:43 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-02

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150662

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Collected: 11-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 18:48 KJR
7440-43-9	Cadmium	1	510.		1.00		18-Dec-13 18:48 KJR
7439-92-1	Lead	1	31.6		1.00		18-Dec-13 18:48 KJR
7439-96-5	Manganese	1	663.		1.00		18-Dec-13 18:48 KJR
7440-02-0	Nickel	1	98.7		1.00		18-Dec-13 18:48 KJR
7440-66-6	Zinc	1	447.		5.00		18-Dec-13 18:48 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P10

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150663

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	3.63		1.00		18-Dec-13 18:52 KJR
7440-43-9	Cadmium	1	151.		1.00		18-Dec-13 18:52 KJR
7439-92-1	Lead	1	134.		1.00		18-Dec-13 18:52 KJR
7439-96-5	Manganese	1	3340		1.00		18-Dec-13 18:52 KJR
7440-02-0	Nickel	1	78.4		1.00		18-Dec-13 18:52 KJR
7440-66-6	Zinc	1	311.		5.00		18-Dec-13 18:52 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P9

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150664

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	2.37		1.00		18-Dec-13 18:57 KJR
7440-43-9	Cadmium	1	136.		1.00		18-Dec-13 18:57 KJR
7439-92-1	Lead	1	2.90		1.00		18-Dec-13 18:57 KJR
7439-96-5	Manganese	1	2180		1.00		18-Dec-13 18:57 KJR
7440-02-0	Nickel	1	49.1		1.00		18-Dec-13 18:57 KJR
7440-66-6	Zinc	1	214.		5.00		18-Dec-13 18:57 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P7D

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150665

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Metals, ICP-MS, Dissolved

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	ND		1.00		18-Dec-13 15:46 KJR
7440-43-9	Cadmium, Dissolved	1	113.		1.00		18-Dec-13 15:46 KJR
7439-92-1	Lead, Dissolved	1	3.55		1.00		18-Dec-13 15:46 KJR
7439-96-5	Manganese, Dissolved	1	1910		1.00		18-Dec-13 15:46 KJR
7440-02-0	Nickel, Dissolved	1	44.5		1.00		18-Dec-13 15:46 KJR
7440-66-6	Zinc, Dissolved	1	187.		5.00		18-Dec-13 15:46 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P7D

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150665

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	3.84		1.00		18-Dec-13 19:01 KJR
7440-43-9	Cadmium	1	37.6		1.00		18-Dec-13 19:01 KJR
7439-92-1	Lead	1	13.5		1.00		18-Dec-13 19:01 KJR
7439-96-5	Manganese	1	1340		1.00		18-Dec-13 19:01 KJR
7440-02-0	Nickel	1	25.3		1.00		18-Dec-13 19:01 KJR
7440-66-6	Zinc	1	80.4		5.00		18-Dec-13 19:01 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P6

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150666

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	6.98		1.00		18-Dec-13 19:06 KJR
7440-43-9	Cadmium	1	171.		1.00		18-Dec-13 19:06 KJR
7439-92-1	Lead	1	80.5		1.00		18-Dec-13 19:06 KJR
7439-96-5	Manganese	1	2660		1.00		18-Dec-13 19:06 KJR
7440-02-0	Nickel	1	69.0		1.00		18-Dec-13 19:06 KJR
7440-66-6	Zinc	1	333.		5.00		18-Dec-13 19:06 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-1H

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150667

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 11-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	20.1		1.00		18-Dec-13 19:11 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:11 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:11 KJR
7439-96-5	Manganese	1	3200		1.00		18-Dec-13 19:11 KJR
7440-02-0	Nickel	1	4.67		1.00		18-Dec-13 19:11 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 19:11 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-6H  
Project ID: Delatte Metals 84383  
Lab ID: 201150668  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223431  
Collected: 11-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	11.6		1.00		18-Dec-13 19:24 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:24 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:24 KJR
7439-96-5	Manganese	1	3600		1.00		18-Dec-13 19:24 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 19:24 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 19:24 KJR

6 compound(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol 1/8/2014 14:41:18  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DW-03 (MS/MSD)

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150669

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	11.0		1.00		18-Dec-13 18:16 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 18:16 KJR
7439-92-1	Lead	1	7.64		1.00		18-Dec-13 18:16 KJR
7439-96-5	Manganese	1	1410		1.00		18-Dec-13 18:16 KJR
7440-02-0	Nickel	1	42.9		1.00		18-Dec-13 18:16 KJR
7440-66-6	Zinc	1	56.6		5.00		18-Dec-13 18:16 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

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Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-22

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150670

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	14.6		1.00		18-Dec-13 19:29 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:29 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:29 KJR
7439-96-5	Manganese	10	16800	D1	10.0		19-Dec-13 09:47 KJR
7440-02-0	Nickel	1	296.		1.00		18-Dec-13 19:29 KJR
7440-66-6	Zinc	1	70.0		5.00		18-Dec-13 19:29 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-09A

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150671

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Collected: 12-Dec-13

Received: 13-Dec-13

Metals, ICP-MS, Water

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	2.28		1.00		18-Dec-13 19:33 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:33 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:33 KJR
7439-96-5	Manganese	1	33.5		1.00		18-Dec-13 19:33 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 19:33 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 19:33 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-09

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150672

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	11.9		1.00		18-Dec-13 19:38 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:38 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:38 KJR
7439-96-5	Manganese	1	1670		1.00		18-Dec-13 19:38 KJR
7440-02-0	Nickel	1	82.7		1.00		18-Dec-13 19:38 KJR
7440-66-6	Zinc	1	109.		5.00		18-Dec-13 19:38 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DUPLICATE #5

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150673

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	11.8		1.00		18-Dec-13 19:42 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:42 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:42 KJR
7439-96-5	Manganese	1	1650		1.00		18-Dec-13 19:42 KJR
7440-02-0	Nickel	1	81.8		1.00		18-Dec-13 19:42 KJR
7440-66-6	Zinc	1	107.		5.00		18-Dec-13 19:42 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-06

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150674

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	5.64		1.00		18-Dec-13 19:47 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:47 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:47 KJR
7439-96-5	Manganese	1	3520		1.00		18-Dec-13 19:47 KJR
7440-02-0	Nickel	1	374.		1.00		18-Dec-13 19:47 KJR
7440-66-6	Zinc	1	124.		5.00		18-Dec-13 19:47 KJR

6 compound(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol 1/8/2014 14:41:18  
Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-04

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150675

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223427

Method: EPA 6020

Metals, ICP-MS, Dissolved

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic, Dissolved	1	ND		1.00		18-Dec-13 15:51 KJR
7440-43-9	Cadmium, Dissolved	1	ND		1.00		18-Dec-13 15:51 KJR
7439-92-1	Lead, Dissolved	1	ND		1.00		18-Dec-13 15:51 KJR
7439-96-5	Manganese, Dissolved	1	ND		1.00		18-Dec-13 15:51 KJR
7440-02-0	Nickel, Dissolved	1	ND		1.00		18-Dec-13 15:51 KJR
7440-66-6	Zinc, Dissolved	1	ND		5.00		18-Dec-13 15:51 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-04

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150675

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 19:52 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:52 KJR
7439-92-1	Lead	1	1.42		1.00		18-Dec-13 19:52 KJR
7439-96-5	Manganese	1	19.9		1.00		18-Dec-13 19:52 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 19:52 KJR
7440-66-6	Zinc	1	5.75		5.00		18-Dec-13 19:52 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:18

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: WW-09

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150676

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 19:56 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 19:56 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 19:56 KJR
7439-96-5	Manganese	1	17.8		1.00		18-Dec-13 19:56 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 19:56 KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 19:56 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:19

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-01 (03)  
Project ID: Delatte Metals 84383  
Lab ID: 201150677  
Description: None  
Method: EPA 6020  
Metals, ICP-MS, Water

Project: 20162962  
Site: None  
Matrix: Water % Moisture: n/a  
Prep Level: Water Batch: 223431  
Collected: 12-Dec-13 Received: 13-Dec-13  
Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	3.25		1.00		18-Dec-13 20:01 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 20:01 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 20:01 KJR
7439-96-5	Manganese	1	747.		1.00		18-Dec-13 20:01 KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 20:01 KJR
7440-66-6	Zinc	1	5.97		5.00		18-Dec-13 20:01 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:19

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-9H (9G)

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150678

Matrix: Water

% Moisture: n/a

Description: None

Prep Level: Water

Batch: 223431

Method: EPA 6020

Metals, ICP-MS, Water

Collected: 12-Dec-13

Received: 13-Dec-13

Prepared: 16-Dec-13

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
7440-38-2	Arsenic	1	18.9		1.00		18-Dec-13 20:05 KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 20:05 KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 20:05 KJR
7439-96-5	Manganese	1	7380		1.00		18-Dec-13 20:05 KJR
7440-02-0	Nickel	1	113.		1.00		18-Dec-13 20:05 KJR
7440-66-6	Zinc	1	185.		5.00		18-Dec-13 20:05 KJR

6 compound(s) reported

Protocol 1/8/2014 14:41:19

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DW-04

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150633

Matrix: Water

%Moisture: n/a

Description: None

Collected: 09-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	1	6.88		mg/L	1.00	17-Dec-13	17-Dec-13 16:46 LVA	
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33 SMS2	

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DW-01

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150659

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	571.	D1	mg/L	50.0	18-Dec-13	18-Dec-13 09:16	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-01

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150660

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	100	3660	D1	mg/L	100.	17-Dec-13	17-Dec-13 16:46	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DUPLICATE #4

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150661

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	500	5370	D1	mg/L	500.	18-Dec-13	18-Dec-13 09:16	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: MW-02

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150662

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	10	332.	D1	mg/L	10.0	17-Dec-13	17-Dec-13 16:46	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P10

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150663

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	1040	D1	mg/L	50.0	18-Dec-13	18-Dec-13 09:19 LVA	
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33 SMS2	

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P9

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150664

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	530.	D1	mg/L	50.0	18-Dec-13	18-Dec-13 09:19	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd, Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P7D  
Project ID: Delatte Metals 84383  
Lab ID: 201150665  
Description: None

Project: 20162962

Site: None

Matrix: Water

%Moisture: n/a

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	694.	D1	mg/L	50.0	18-Dec-13	18-Dec-13 09:19	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-P6

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150666

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	783.	D1	mg/L	50.0	17-Dec-13	17-Dec-13 16:58	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-1H

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150667

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	10	365.	D1	mg/L	10.0	18-Dec-13	18-Dec-13 09:10	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:21  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-6H

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150668

Matrix: Water

%Moisture: n/a

Description: None

Collected: 11-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	997.	D1	mg/L	50.0	17-Dec-13	17-Dec-13 17:00	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.100	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:22  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.





## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DW-03 (MS/MSD)  
Project ID: Delatte Metals 84383  
Lab ID: 201150669  
Description: None

Project: 20162962  
Site: None  
Matrix: Water %Moisture: n/a

Collected: 12-Dec-13 Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	481.	D1	mg/L	50.0	17-Dec-13	17-Dec-13 17:00	LVA
Sulfide	SM 4500-S D	223451	1	0.897		mg/L	0.100	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: GSGP-22

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150670

Matrix: Water

%Moisture: n/a

Description: None

Collected: 12-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	500	5880	D1	mg/L	500.	17-Dec-13	17-Dec-13 17:02	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

Inorganics 1/8/2014 14:41:22

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: BA-09

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150672

Matrix: Water

%Moisture: n/a

Description: None

Collected: 12-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	1220	D1	mg/L	50.0	17-Dec-13	17-Dec-13 17:02	LVA
Sulfide	SM 4500-S D	223451	1	0.544		mg/L	0.100	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:22

Limits are corrected for sample size, dilution and moisture content if applicable.

Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: DUPLICATE #5  
Project ID: Delatte Metals 84383  
Lab ID: 201150673  
Description: None

Project: 20162962

Site: None

Matrix: Water

%Moisture: n/a

Collected: 12-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	50	1510	D1	mg/L	50.0	18-Dec-13	18-Dec-13 09:29	LVA
Sulfide	SM 4500-S D	223451	1	0.712		mg/L	0.100	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:22  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Sample Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Client: SEMS, Inc.

Client ID: TEPA-9H (9G)

Project: 20162962

Project ID: Delatte Metals 84383

Site: None

Lab ID: 201150678

Matrix: Water

%Moisture: n/a

Description: None

Collected: 12-Dec-13

Received: 13-Dec-13

Analyte	Method	Batch	DF	Result	Qu	Units	Reporting Limit	Prep.	Analysis	Limit
Sulfate	ASTM D516-9	223453	500	6420	D1	mg/L	500.	18-Dec-13	18-Dec-13 10:25	LVA
Sulfide	SM 4500-S D	223451	1	ND		mg/L	0.0200	16-Dec-13	16-Dec-13 10:33	SMS2

2 parameter(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Inorganics 1/8/2014 14:41:22  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Quality Control

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Batch: 223427  
Method: Water ICPM

Project: 20162962    LCS: 201150823    18-Dec-13    14:29  
MS: 201150950    18-Dec-13    14:38  
Units: ug/L    MSD: 201150951    18-Dec-13    14:52  
Original for MS: Client Sample    201150624

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits		Max	Qu
											LCS	MS/MSD	RPD	
Arsenic, Dissolved	20.0	20.1	101	20.0	1.32	21.0	20.4	98	95	3	83-115	80-120	20	
Cadmium, Dissolved	20.0	19.3	96	20.0		19.1	18.9	96	95	1	85-115	80-120	20	
Lead, Dissolved	20.0	19.0	95	20.0	0.387	19.4	19.2	95	94	1	85-115	85-115	20	
Manganese, Dissolved	20.0	20.6	103	20.0	70.6	88.9	87.8	92	86	1	80-120	75-125	20	
Nickel, Dissolved	20.0	19.9	100	20.0	1.09	20.2	20.0	96	95	1	82-115	80-120	20	
Zinc, Dissolved	20.0	20.5	102	20.0	5.89	24.6	24.5	94	93	1	80-120	80-120	20	

6 compound(s) reported



## Quality Control

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Batch: 223429

Project: 20162962

LCS: 201150827 17-Dec-13 14:25

Method: Water ICPM

MS: 201150828 17-Dec-13 14:34

Units: ug/L

MSD: 201150829 17-Dec-13 14:39

Original for MS: Project Sample 201150636

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits		Max	Qu
Arsenic	20.0	19.3	97	20.0	4.73	23.7	23.4	95	94	1	83-115	80-120	20	
Cadmium	20.0	19.6	98	20.0		19.5	19.7	97	98	1	85-115	80-120	20	
Lead	20.0	18.8	94	20.0	5.31	25.1	25.1	99	99	0	84-115	80-120	20	
Manganese	20.0	19.3	97	20.0	3.14	22.1	22.1	95	95	0	85-115	80-120	20	
Nickel	20.0	19.7	99	20.0	0.995	20.0	20.2	95	96	1	80-118	80-120	20	
Zinc	20.0	20.7	104	20.0	3.88	22.6	23.5	93	98	4	80-120	80-120	20	

6 compound(s) reported



# Quality Control

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Batch: 223430

Project: 20162962

LCS: 201150831 18-Dec-13 16:00

Method: Water ICPM

MS: 201150832 18-Dec-13 16:09

Units: ug/L

MSD: 201150833 18-Dec-13 16:13

Original for MS: Project Sample 201150652

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits		Max	Qu
Arsenic	20.0	19.7	99	20.0	1.90	21.9	21.6	100	99	1	83-115	80-120	20	
Cadmium	20.0	19.8	99	20.0		19.8	19.8	99	99	0	85-115	80-120	20	
Lead	20.0	19.2	96	20.0	0.438	20.4	20.5	100	100	0	84-115	80-120	20	
Manganese	20.0	20.0	100	20.0	23.4	43.0	43.6	98	101	1	85-115	80-120	20	
Nickel	20.0	19.6	98	20.0		20.0	20.0	98	98	0	80-118	80-120	20	
Zinc	20.0	21.5	107	20.0	7.99	27.4	26.7	97	94	3	80-120	80-120	20	

6 compound(s) reported





## Quality Control

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Batch: 223431

Project: 20162962 LCS: 201150835 18-Dec-13 18:11

Method: Water ICPM

MS: 201150836 18-Dec-13 18:30

Units: ug/L MSD: 201150837 18-Dec-13 18:34

Original for MS: Project Sample 201150669

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits		Max	Qu
Arsenic	20.0	20.2	101	20.0	11.0	22.3	22.3	56 *	57 *	0	83-115	80-120	20	Q1
Cadmium	20.0	20.1	101	20.0		17.8	18.1	87	89	2	85-115	80-120	20	
Lead	20.0	19.6	98	20.0	7.64	27.3	27.7	98	100	1	84-115	80-120	20	
Manganese	20.0	20.4	102	20.0	1410	1420	1410	65 *	0 *	1	85-115	80-120	20	Q3
Nickel	20.0	20.0	100	20.0	42.9	57.4	57.2	72 *	72 *	0	80-118	80-120	20	Q1
Zinc	20.0	21.4	107	20.0	56.6	70.0	68.5	67 *	59 *	2	80-120	80-120	20	Q1

6 compound(s) reported



## Blank Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Blank ID: 223427 BLANK 1

Project: 20162962

Lab ID: 201150822

Prep Level: Water

Batch: 223427

Method: Water ICPM

Prepared: 16-Dec-13

						Units: <u>ug/L</u>		
CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit		Analysis	
7440-38-2	Arsenic, Dissolved	1	ND		1.00		18-Dec-13 14:24	KJR
7440-43-9	Cadmium, Dissolved	1	ND		1.00		18-Dec-13 14:24	KJR
7439-92-1	Lead, Dissolved	1	ND		1.00		18-Dec-13 14:24	KJR
7439-96-5	Manganese, Dissolved	1	ND		1.00		18-Dec-13 14:24	KJR
7440-02-0	Nickel, Dissolved	1	ND		1.00		18-Dec-13 14:24	KJR
7440-66-6	Zinc, Dissolved	1	ND		5.00		18-Dec-13 14:24	KJR
6 compound(s) reported								

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

Protocol Blank 1/8/2014 14:41:26



## Blank Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Blank ID: 223429 BLANK 1

Project: 20162962

Lab ID: 201150826

Prep Level: Water

Batch: 223429

Method: Water ICPM

Prepared: 16-Dec-13

				Units: <u>ug/L</u>			
CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis	
7440-38-2	Arsenic	1	ND		1.00	17-Dec-13 14:21	KJR
7440-43-9	Cadmium	1	ND		1.00	17-Dec-13 14:21	KJR
7439-92-1	Lead	1	ND		1.00	17-Dec-13 14:21	KJR
7439-96-5	Manganese	1	ND		1.00	17-Dec-13 14:21	KJR
7440-02-0	Nickel	1	ND		1.00	17-Dec-13 14:21	KJR
7440-66-6	Zinc	1	ND		5.00	17-Dec-13 14:21	KJR

6 compound(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol Blank 1/8/2014 14:41:26  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Blank Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Blank ID: 223430 BLANK 1

Project: 20162962

Lab ID: 201150830

Prep Level: Water

Batch: 223430

Method: Water ICPM

Prepared: 16-Dec-13

				Units: <u>ug/L</u>			
CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis	
7440-38-2	Arsenic	1	ND		1.00	18-Dec-13 15:55	KJR
7440-43-9	Cadmium	1	ND		1.00	18-Dec-13 15:55	KJR
7439-92-1	Lead	1	ND		1.00	18-Dec-13 15:55	KJR
7439-96-5	Manganese	1	ND		1.00	18-Dec-13 15:55	KJR
7440-02-0	Nickel	1	ND		1.00	18-Dec-13 15:55	KJR
7440-66-6	Zinc	1	ND		5.00	18-Dec-13 15:55	KJR

6 compound(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol Blank 1/8/2014 14:41:26  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Blank Results

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Blank ID: 223431 BLANK 1

Project: 20162962

Lab ID: 201150834

Prep Level: Water

Batch: 223431

Method: Water ICPM

Prepared: 16-Dec-13

						Units: <u>ug/L</u>		
CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit		Analysis	
7440-38-2	Arsenic	1	ND		1.00		18-Dec-13 18:07	KJR
7440-43-9	Cadmium	1	ND		1.00		18-Dec-13 18:07	KJR
7439-92-1	Lead	1	ND		1.00		18-Dec-13 18:07	KJR
7439-96-5	Manganese	1	ND		1.00		18-Dec-13 18:07	KJR
7440-02-0	Nickel	1	ND		1.00		18-Dec-13 18:07	KJR
7440-66-6	Zinc	1	ND		5.00		18-Dec-13 18:07	KJR

6 compound(s) reported

ND denotes the analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.

Protocol Blank 1/8/2014 14:41:26  
Limits are corrected for sample size, dilution and moisture content if applicable.  
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.  
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.



## Inorganics Quality Control

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

Project: 20162962

Parameter	Batch	Blank	Units	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits		Max	Qu
Sulfide	223451	<0.0200	mg/L	0.200	0.191	96	1.00	0.897	1.70		80		1	80-120	75-125	20	
Sulfate	223453	<1.00	mg/L	17.9	18.8	105	100.	481.	591.		110		14	90-110	75-125	20	D1

\* denotes recovery outside of QC limits.

QC Inorganic 1/8/2014 14:41:28

MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.



## Definitions/Qualifiers

Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0333

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Project: 20162962

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Value	Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q3	The matrix spike recoveries are poor due to the presence of this analyte in the sample at a concentration greater than 4 times the spiked amount. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
LCS	Laboratory Control Sample.
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.



Pace Analytical Services, Inc.  
1000 Riverbend Blvd. Suite F  
St. Rose, LA 70087  
(504) 469-0331

# Chains of Custody





# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

2016296

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		Page: 2 of 5	
Company: SEMS Inc		Report To: Nick Rodenhorst		Attention: Brian Sullivan		<b>REGULATORY AGENCY</b> <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Address: 3801 N. Causeway Blvd. Metairie, LA 70002		Copy To: Brian Sullivan		Company Name: SEMS, Inc			
Email To: nrodenhorst@semsinc.com		Purchase Order No.: 207-0029		Address: 3801 N. Causeway Blvd.		<b>Site Location</b> STATE: LA	
Phone: Fax:		Project Name: Delatte Metals		Pace Quote Reference: 9893			
Requested Due Date/TAT: 10 WD		Project Number: 84383		Pace Project Manager: Randy Shackelford			
				Pace Profile #:			

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Nick Rodenhorst / SEMS	12/12/13	925	Colin Shen Pace	12-13	925				
	Colin Shen Pace	12-13-13	1045	Greg Bui	12-13-13	1045	1.6	0.4	5.1	Y N Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Nick Rodenhorst					
SIGNATURE of SAMPLER: [Signature]					
DATE Signed (MM/DD/YY): 12/12/13					

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

20162962

Page: 3 of 5

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: SEMS Inc		Report To: Nick Rodenhorst		Attention: Brian Sullivan	
Address: 3801 N. Causeway Blvd. Metairie, LA 70002		Copy To: Brian Sullivan		Company Name: SEMS, Inc	
Email To: nrodenhorst@semsinc.com		Purchase Order No.: 207-0029		Address: 3801 N. Causeway Blvd.	
Phone:      Fax:		Project Name: Delatte Metals		Pace Quote Reference: 9893	
Requested Due Date/TAT: 10 WD		Project Number: 84383		Pace Project Manager: Randy Shackelford	
				Pace Profile #:	
				<b>REGULATORY AGENCY</b>	
				<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
				Site Location: LA STATE: LA	

ITEM #	Section D Required Client Information  SAMPLE ID (A-Z, 0-9 / .) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test ↓	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol	Other	Total Metals	Sulfide		Sulfate	Dissolved Metals Field Filtered Lab Filtered																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Nick Rodenhorst	12/12/13	925	Alan Shaw Pace	12-13	925				
	Alan Shaw Pace	12-13-13	1045	Greg B...	12-13	1045	1.6	1.4	Y	Y
							5.7			

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Nick Rodenhorst					
SIGNATURE of SAMPLER: [Signature]					
DATE Signed (MM/DD/YY): 12/12/13					

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

20162962

Page: 4 of 5

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: SEMS Inc	Report To: Nick Rodenhorst	Attention: Brian Sullivan			
Address: 3801 N. Causeway Blvd.	Copy To: Brian Sullivan	Company Name: SEMS, Inc			
Metairie, LA 70002		Address: 3801 N. Causeway Blvd.			
Email To: nrodenhorst@semsinc.com	Purchase Order No.: 207-0029	Pace Quote Reference: 9893			
Phone:	Project Name: Delatte Metals	Pace Project Manager: Randy Shackelford			
Requested Due Date/TAT: 10 WD	Project Number: 84383	Pace Profile #:			
			<b>REGULATORY AGENCY</b>		
			<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		
			Site Location	LA	
			STATE:		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test ↓	Requested Analysis Filtered (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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**Section A**  
Required Client Information:

**Section B**  
Required Project Information:

**Section C**  
Invoice Information:

Page: **5** of **5**  
**1624527**

Company: <b>SEMS Inc.</b>		Report To: <b>Nick Rodenhorn</b>		Attention:	
Address: <b>3801 N. Causeway</b>		Copy To: <b>Brian Sullivan</b>		Company Name:	
Email To: <b>nrodenhorn@semsinc.com</b>		Purchase Order No.: <b>207-0029</b>		Address:	
Phone:		Project Name: <b>Delatte Metals</b>		Pace Quote Reference:	
Requested Due Date/TAT: <b>10 WD</b>		Project Number: <b>84783</b>		Pace Project Manager: <b>Pandy Shuckelford</b>	
Fax:				Pace Profile #:	
REGULATORY AGENCY					
<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER					
Site Location				STATE:	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE  Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↓	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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ORIGINAL

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: <b>Nick Rodenhorn</b>					
SIGNATURE of SAMPLER: [Signature]      DATE Signed (MM/DD/YY):					



## Sample Condition



1000 Riverbend Blvd., Suite F  
St. Rose, LA 70087

Courier: ☒ Pace Courier ☐ Hired Courier ☐ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals Intact: ☐ Yes ☒ No

Thermometer  
Used:

- ☐ Therm Fisher IR 5  
☐ Therm Fisher IR 6  
☒ Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining  
contents: 12-14-13 JMB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO <sub>3</sub> _____ H <sub>2</sub> SO <sub>4</sub> _____	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: \_\_\_\_\_

Date/Time: \_\_\_\_\_

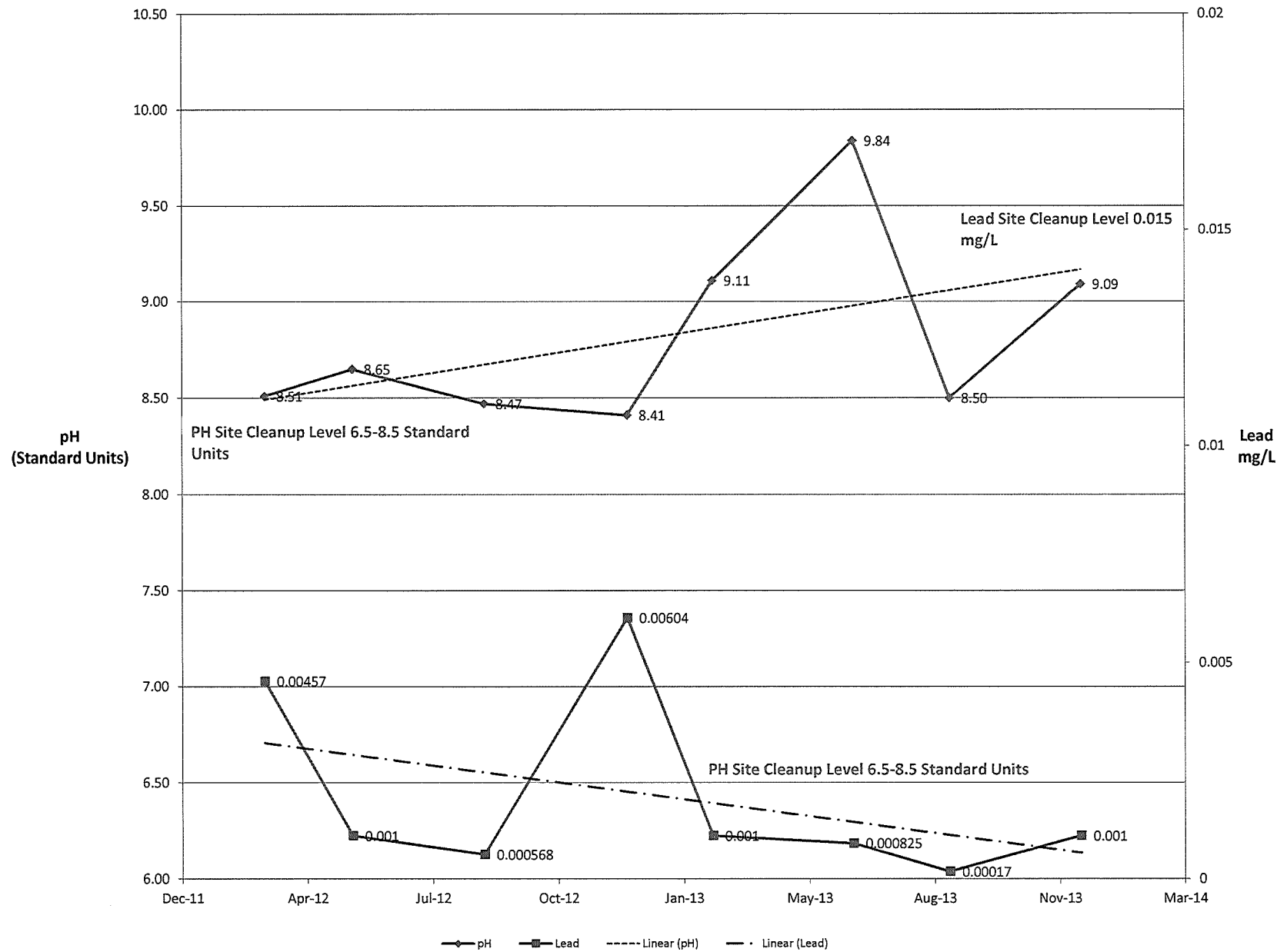
Comments/ Resolution: \_\_\_\_\_

**ATTACHMENT C**  
**HISTORICAL CONCENTRATION**  
**VS.**  
**TIME GRAPHS**

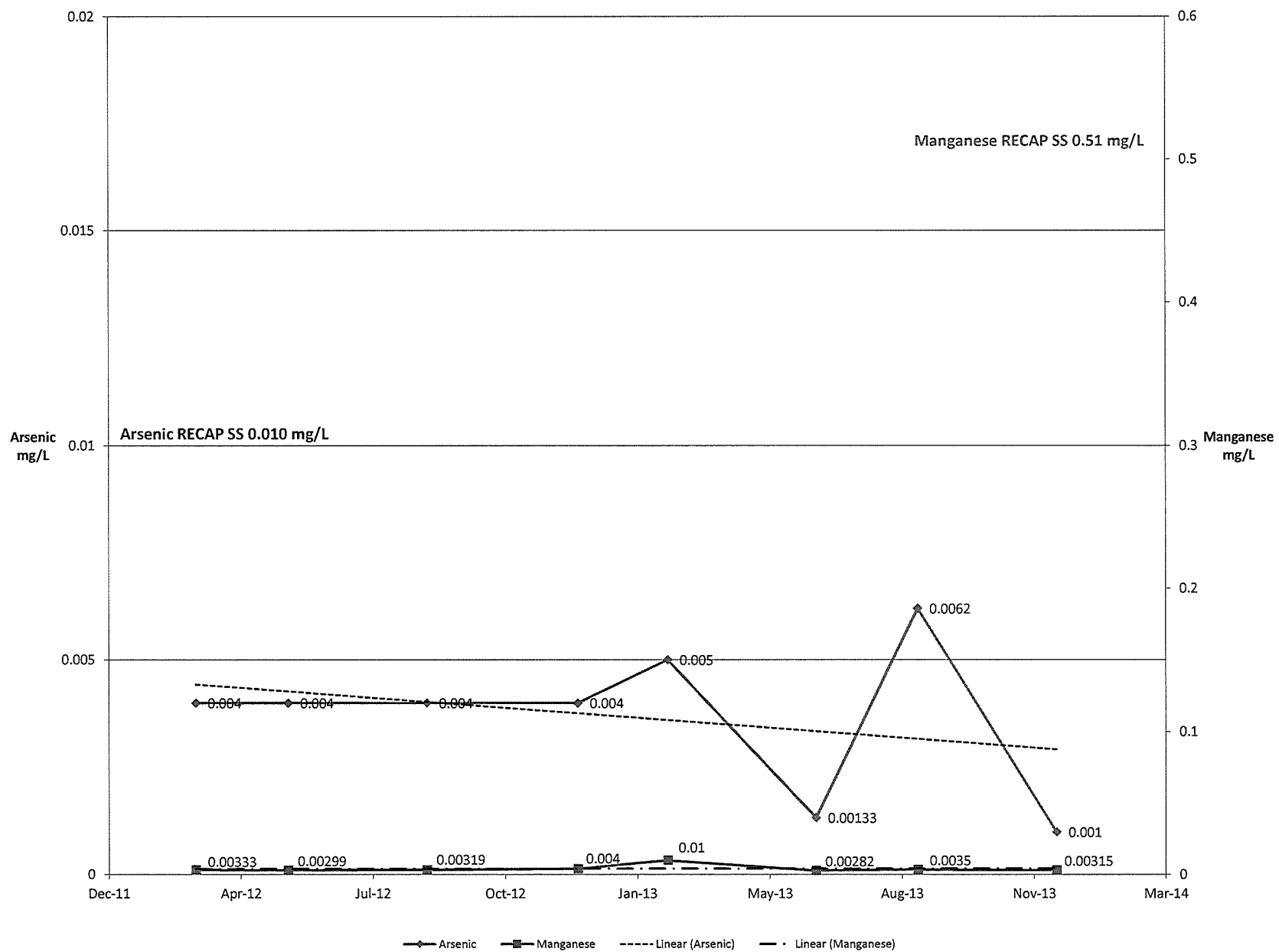
**WATER WELLS**  
**(PAST EIGHT QUARTERS)**



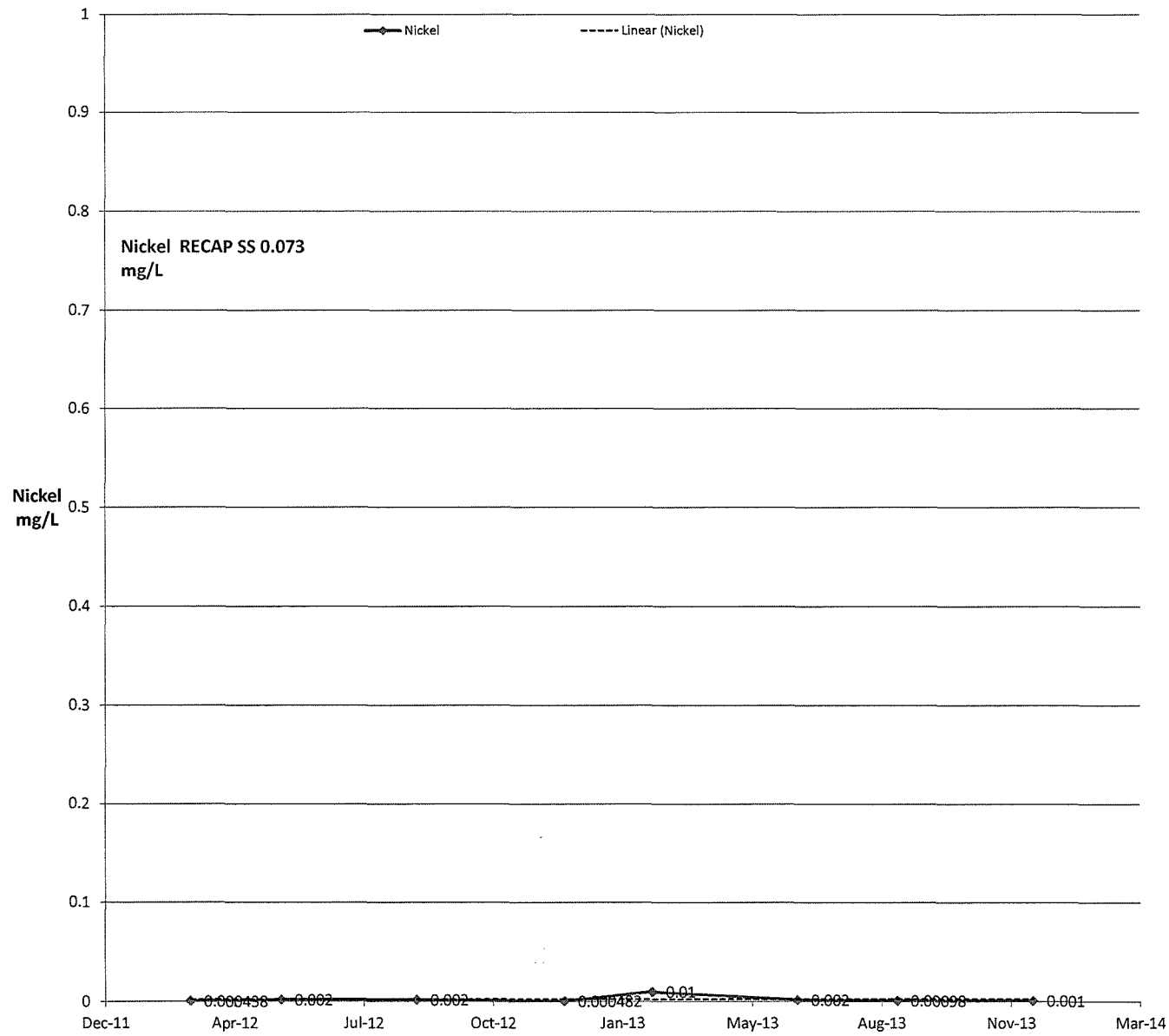
# WW-04 pH and Lead



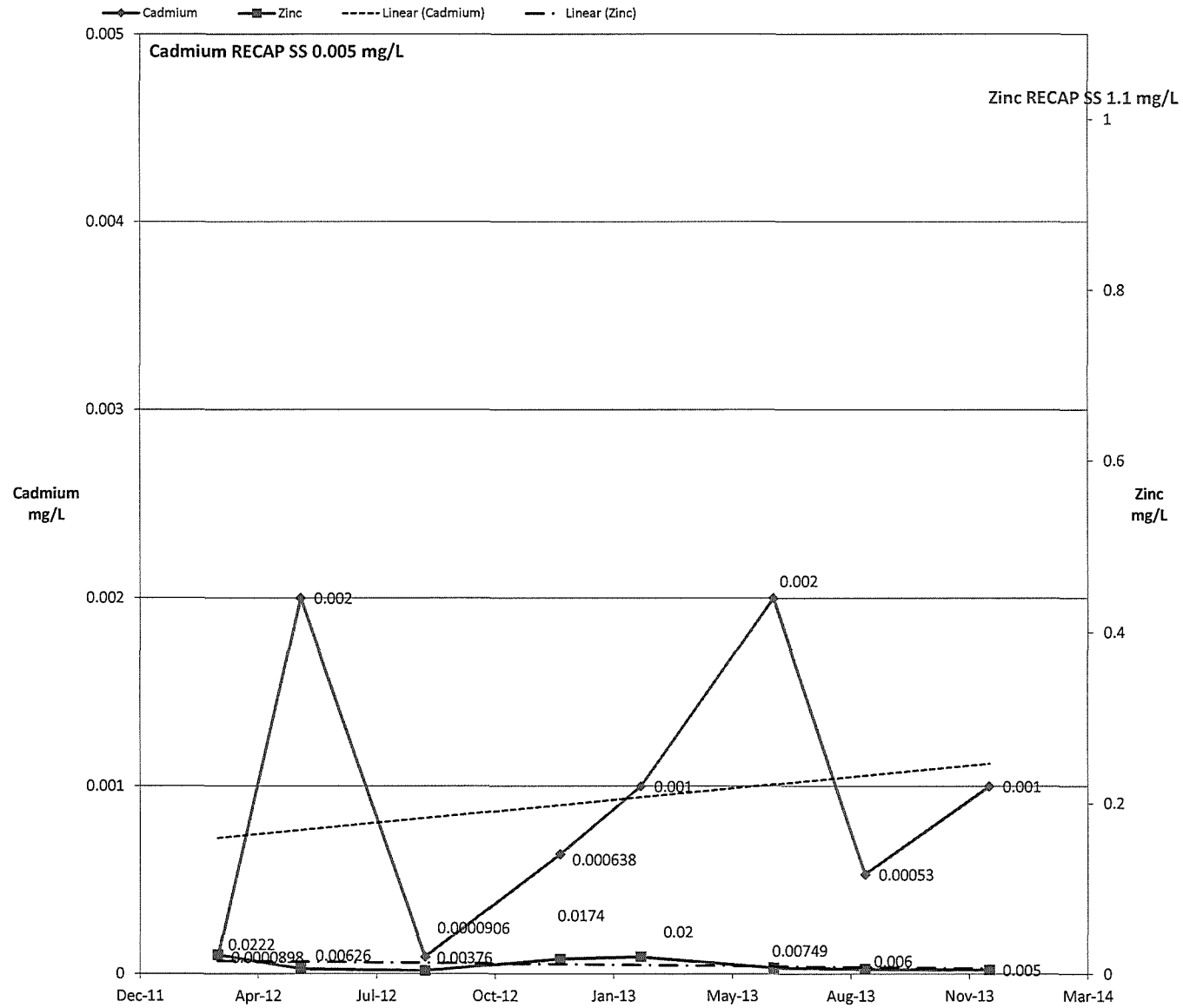
# WW-04 Arsenic and Manganese



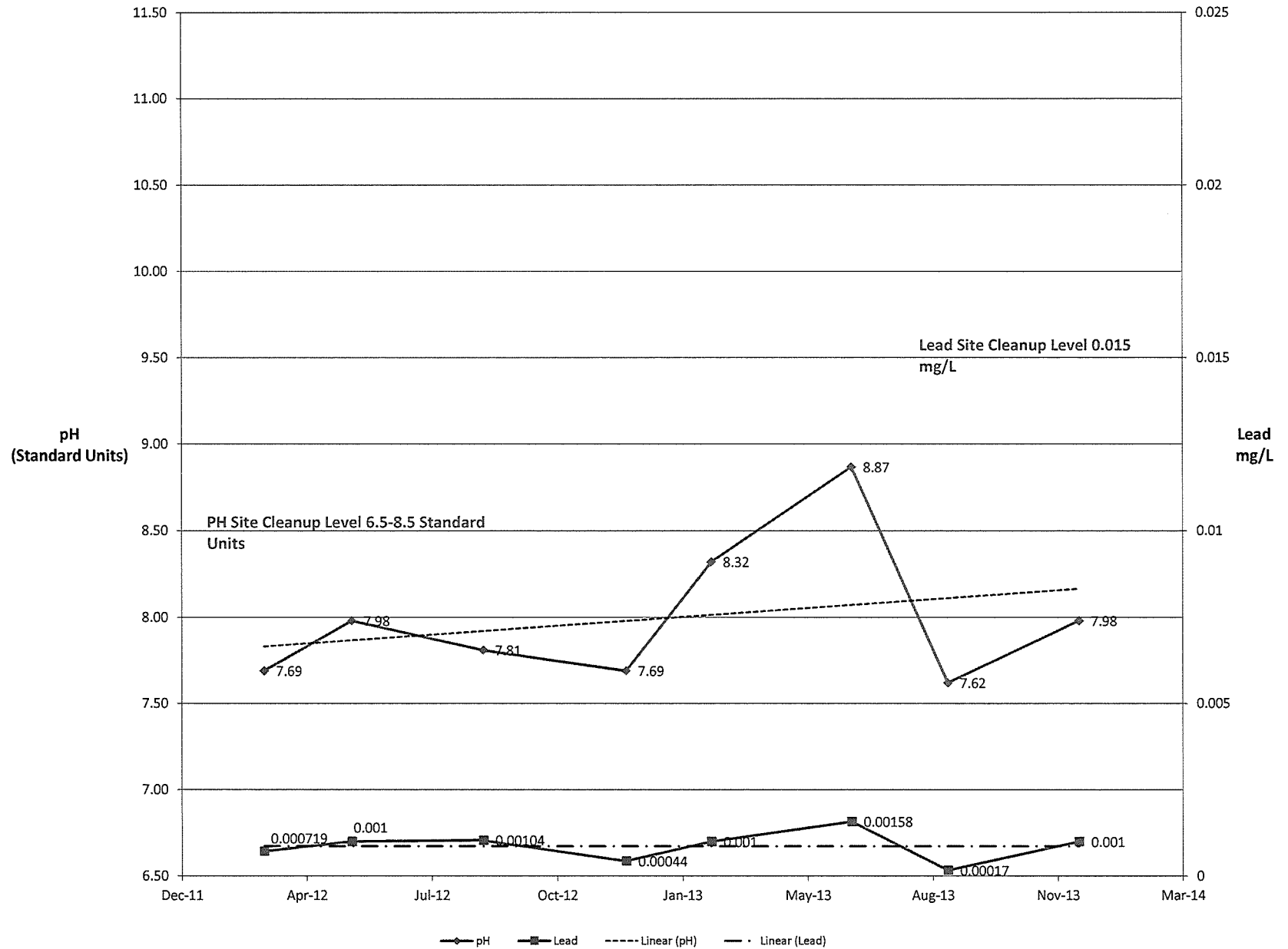
# WW-04 Nickel



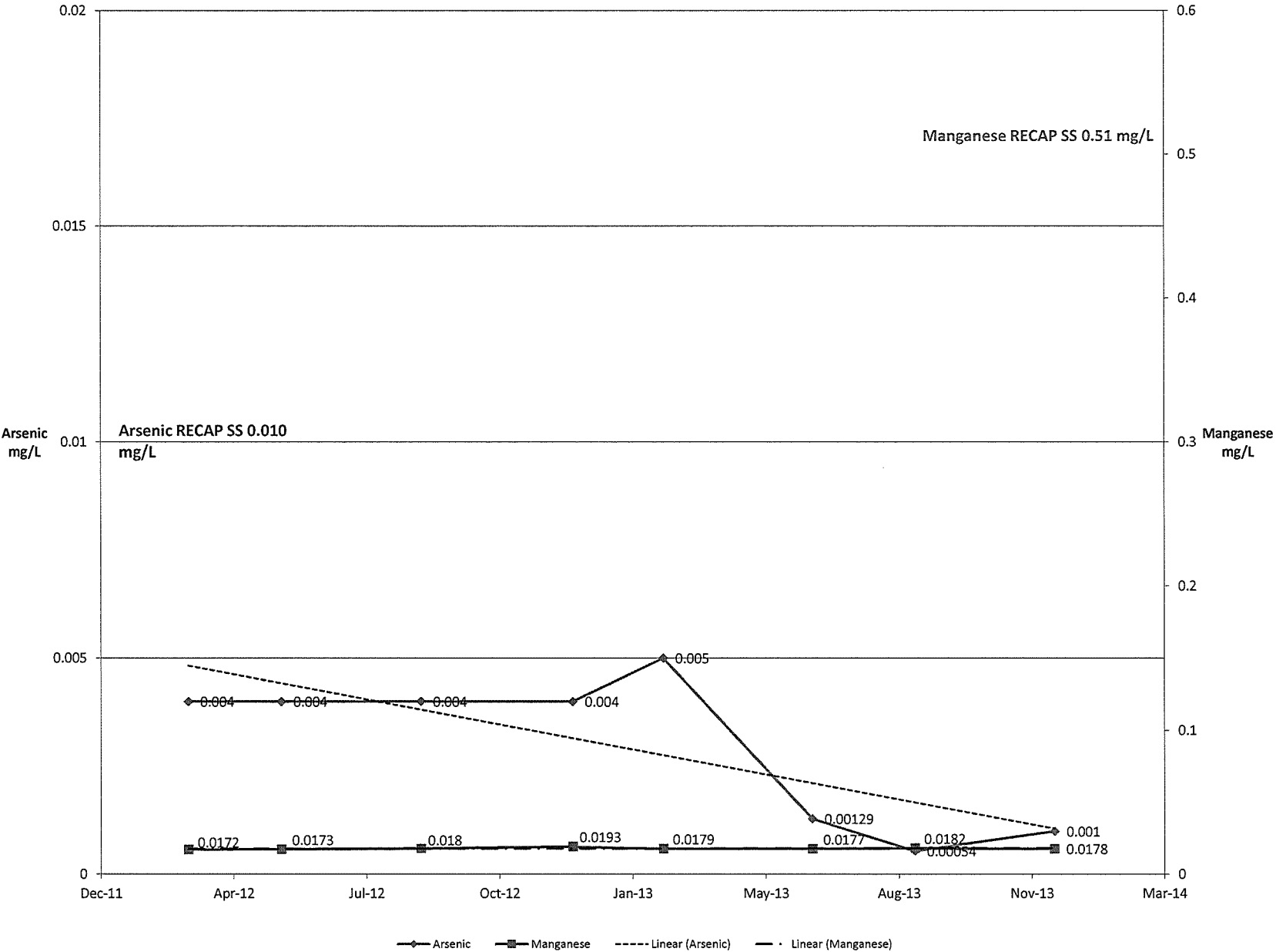
# WW-04 Cadmium and Zinc



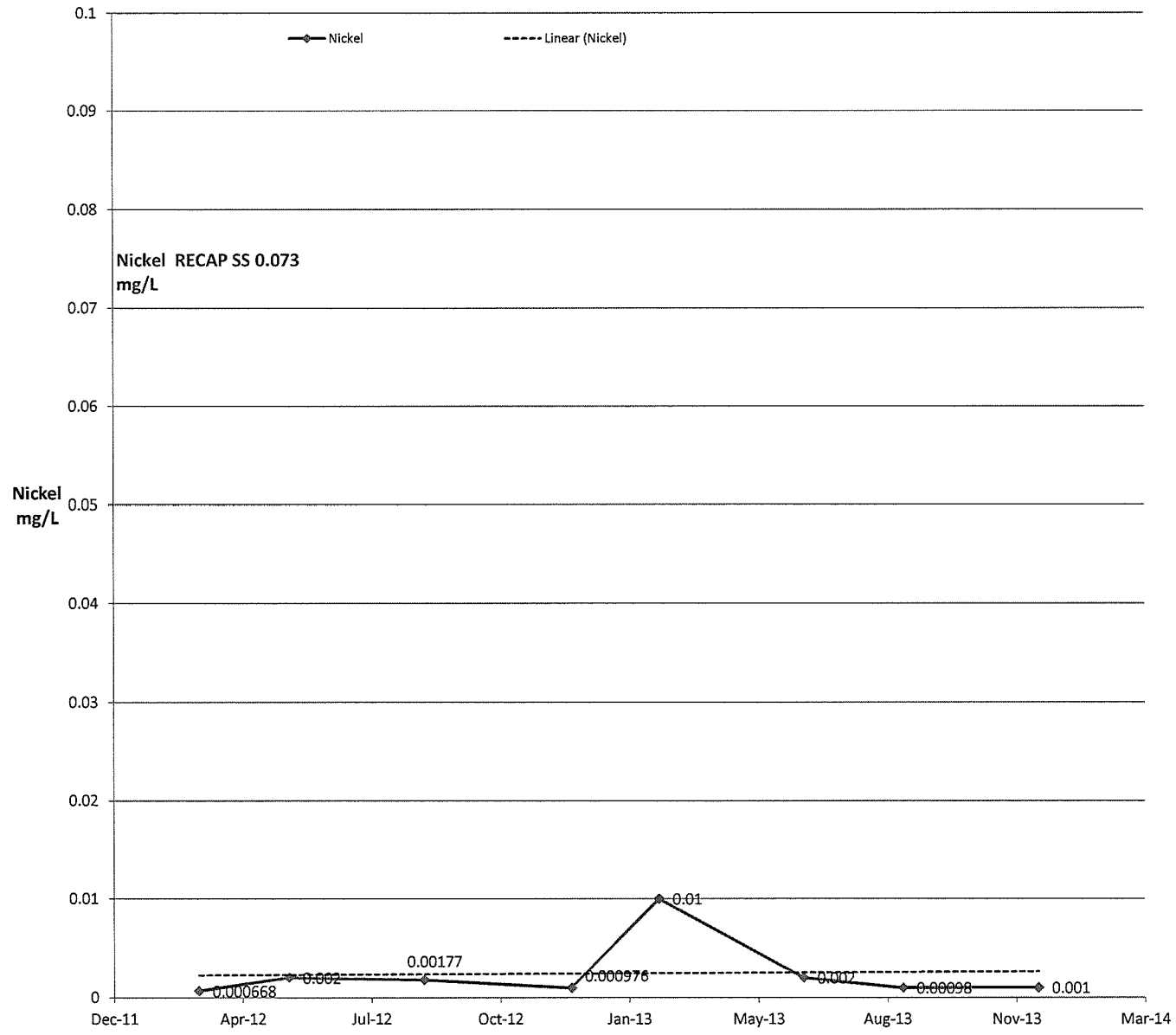
# WW-09 pH and Lead



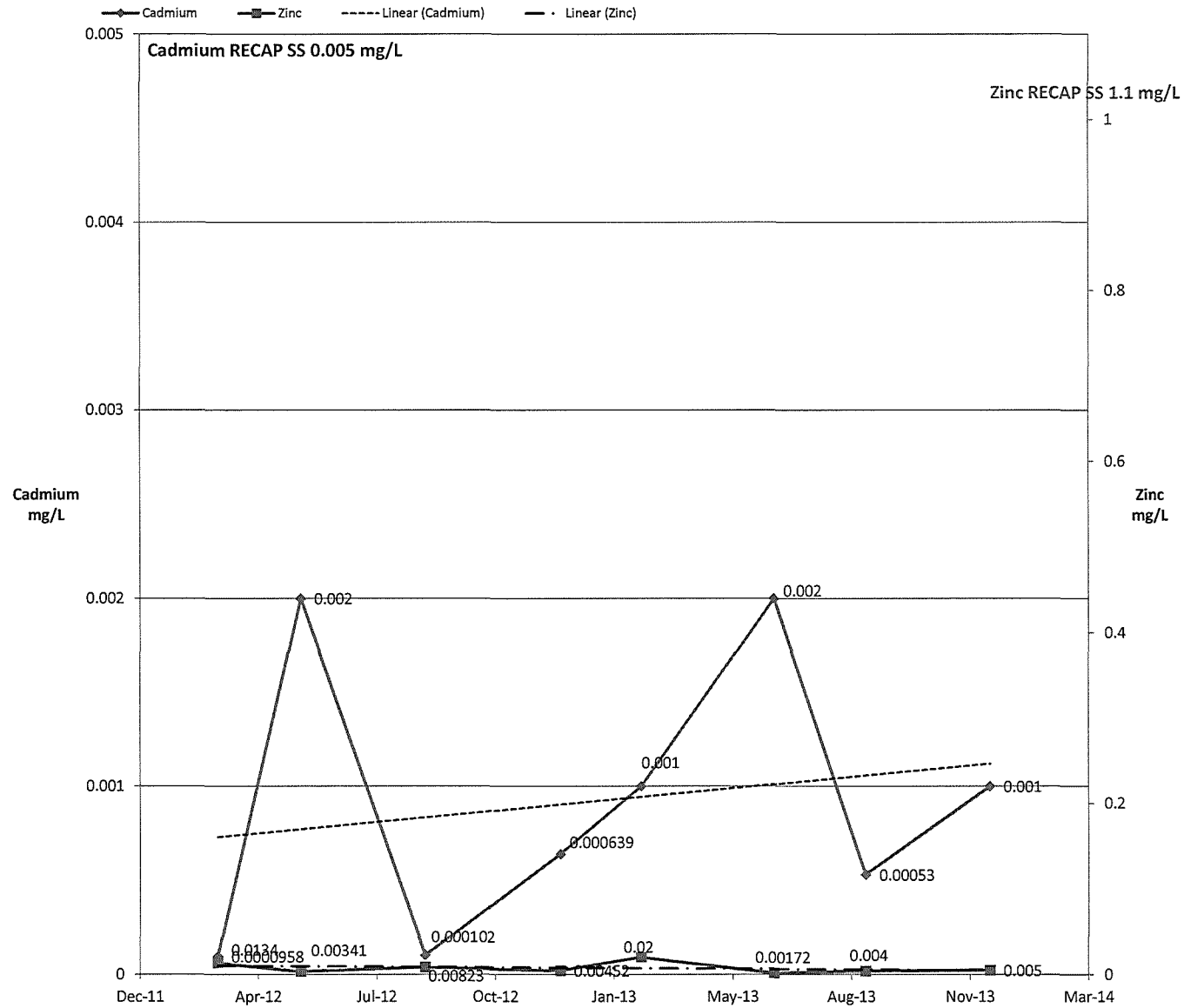
WW-09 Arsenic and Manganese



# WW-09 Nickel

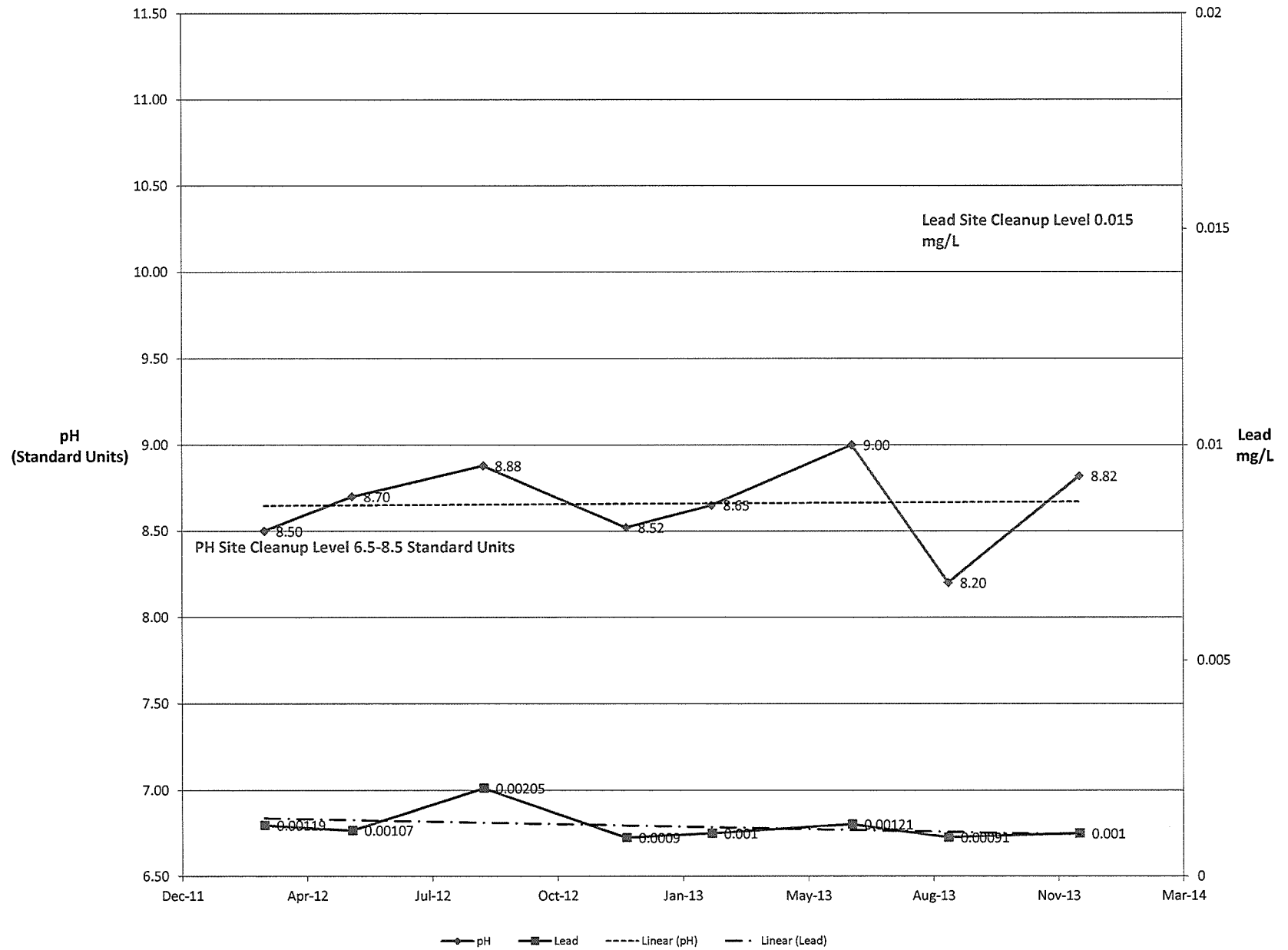


### WW-09 Cadmium and Zinc

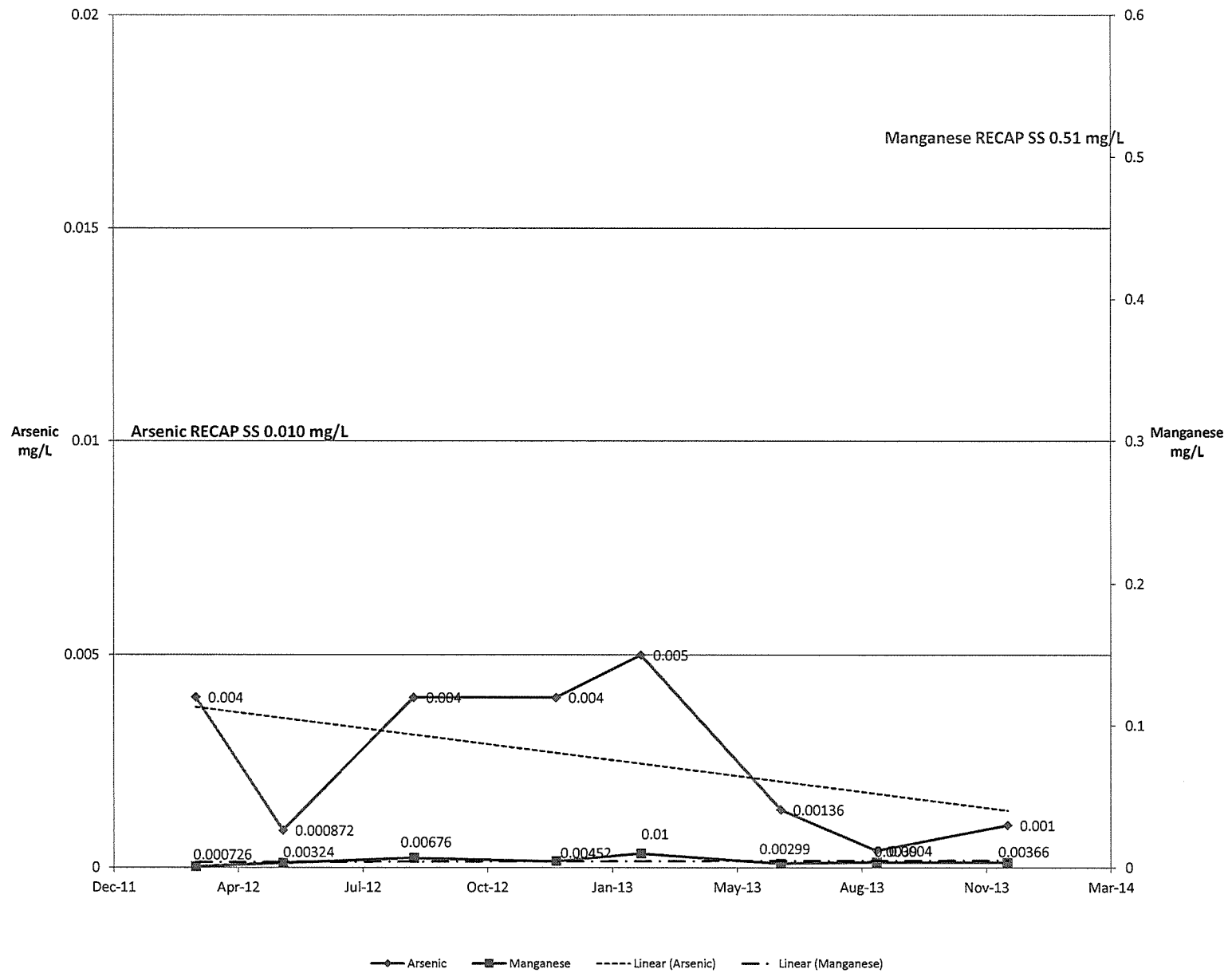




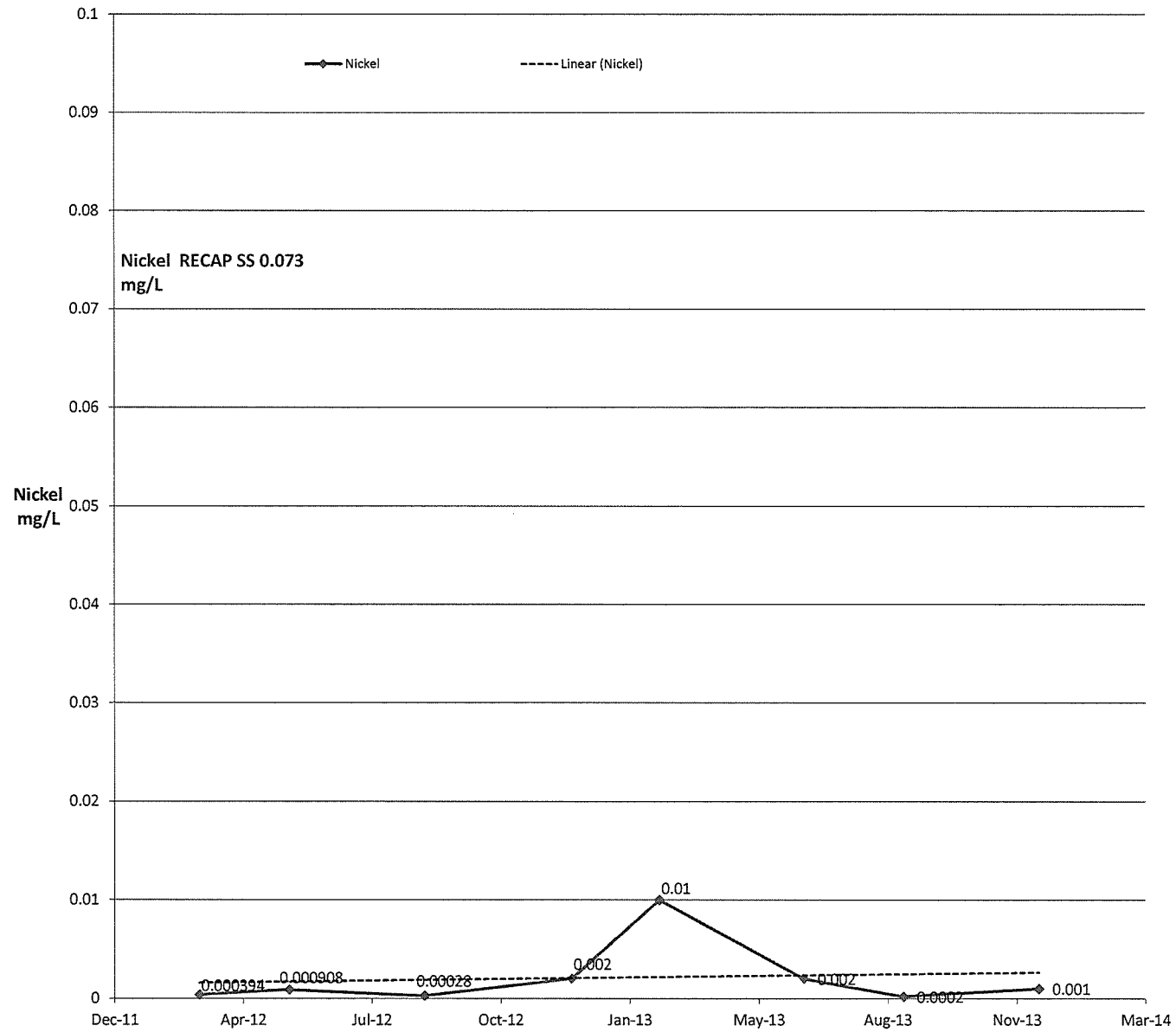
# North Well pH and Lead



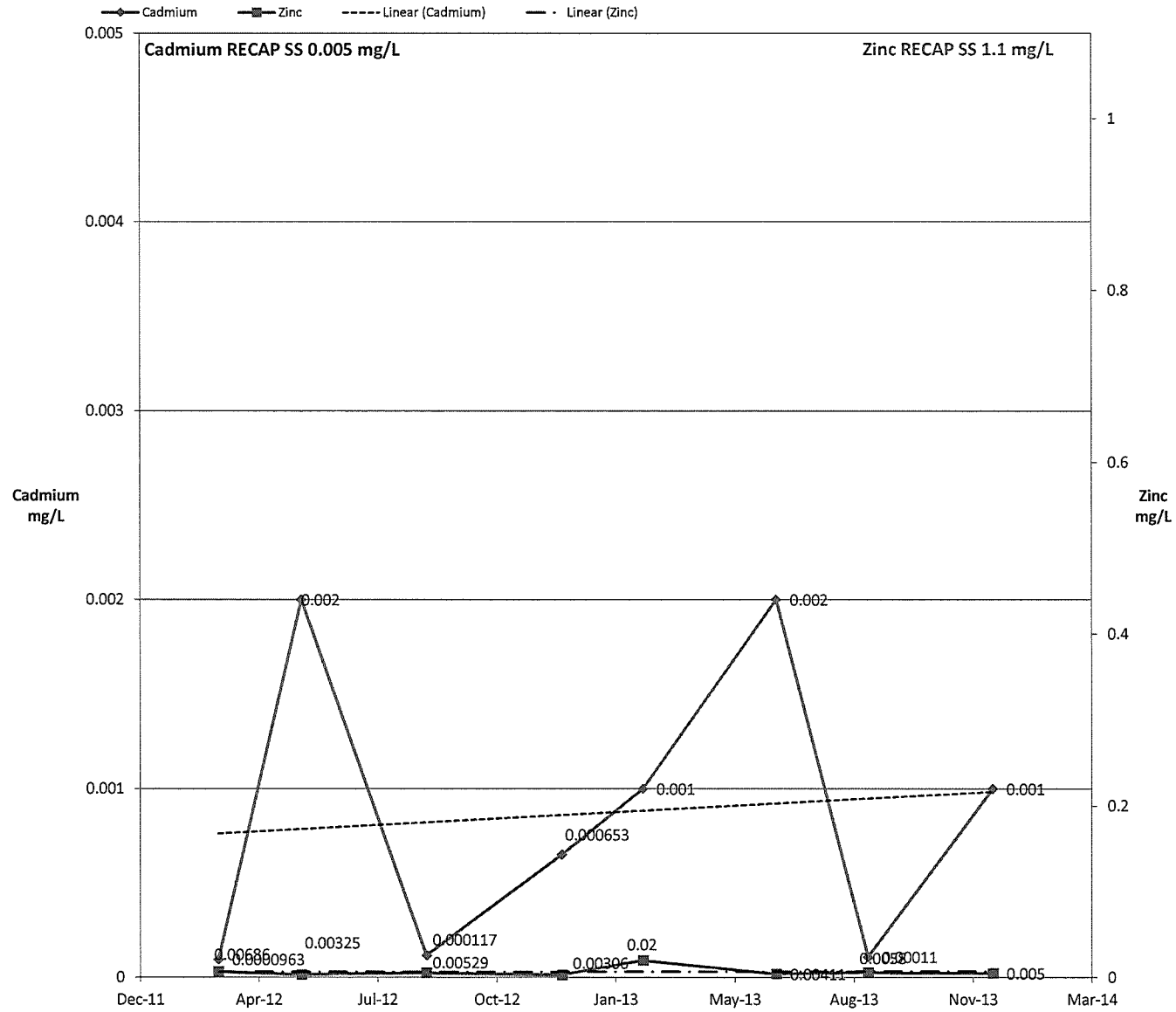
# North Well Arsenic and Manganese



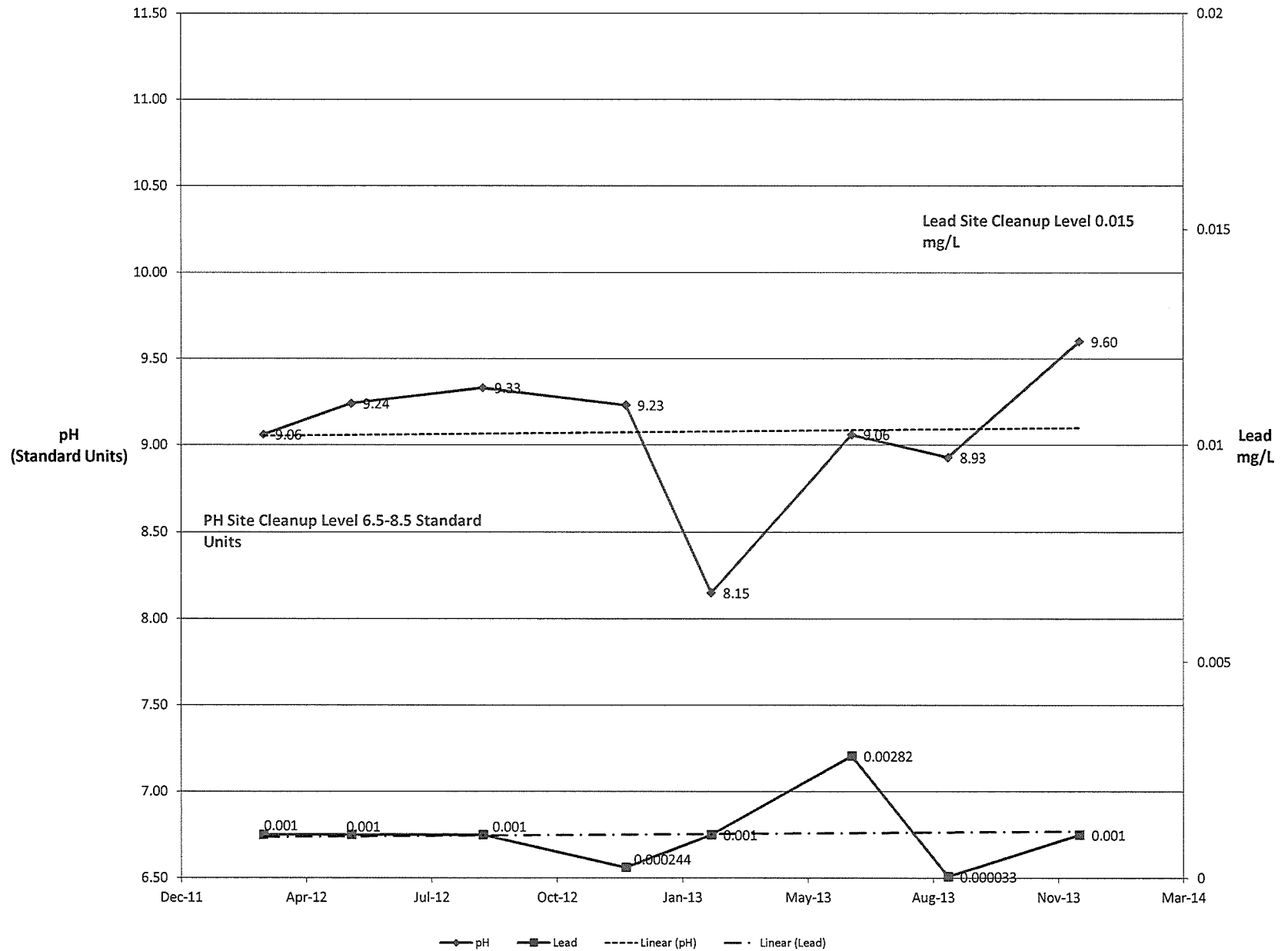
# North Well Nickel



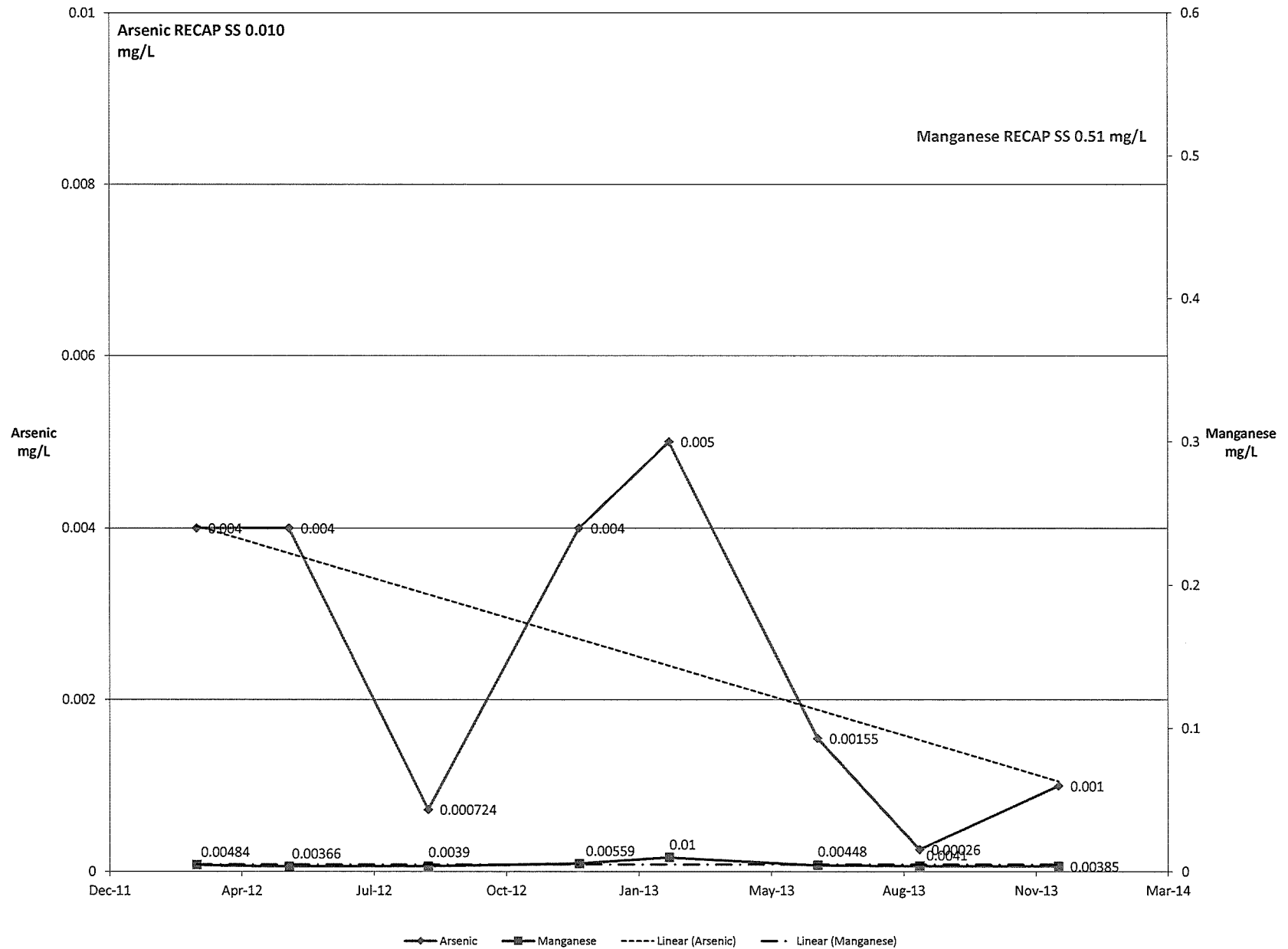
# North Well Cadmium and Zinc



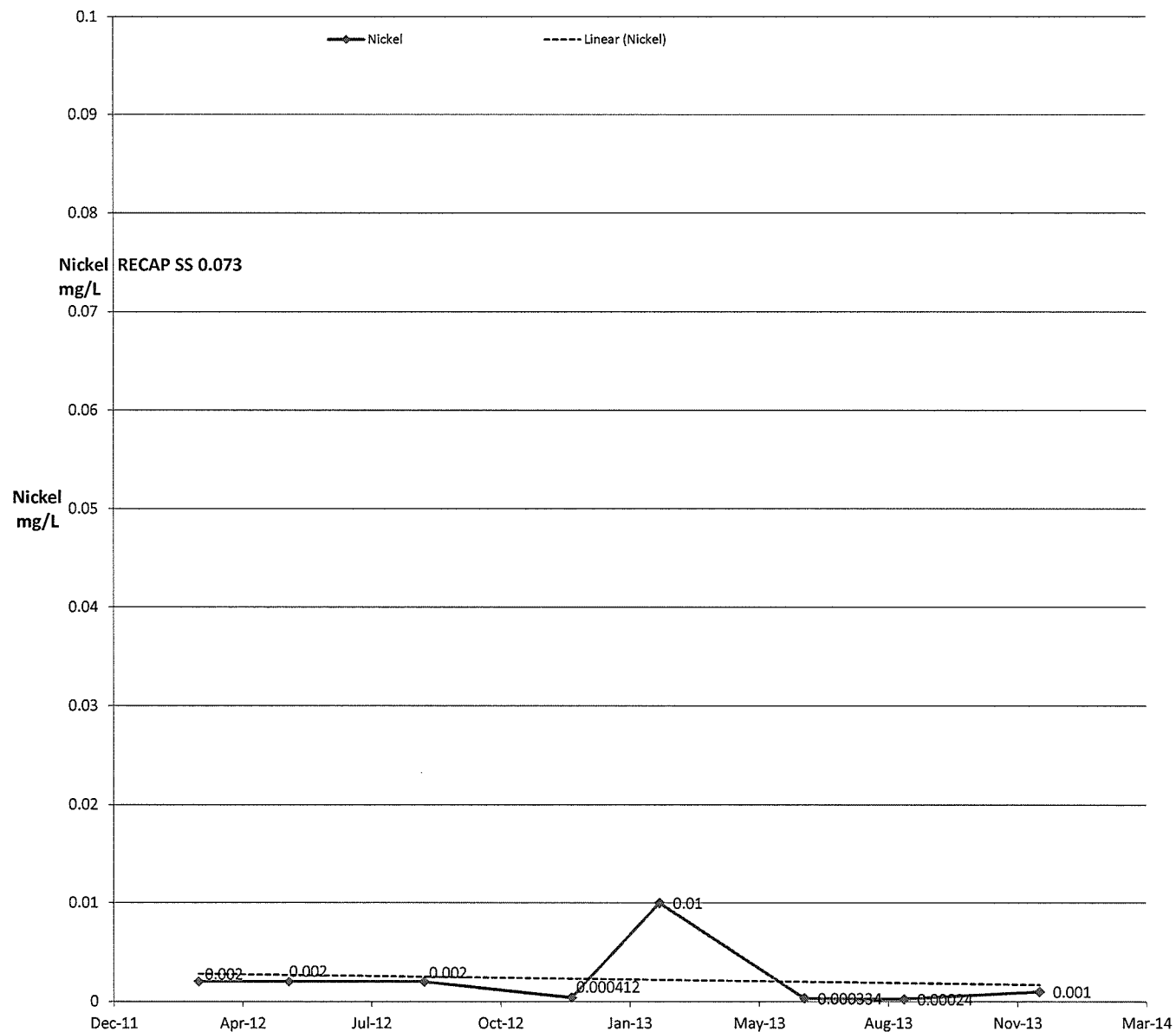
# South Well pH and Lead



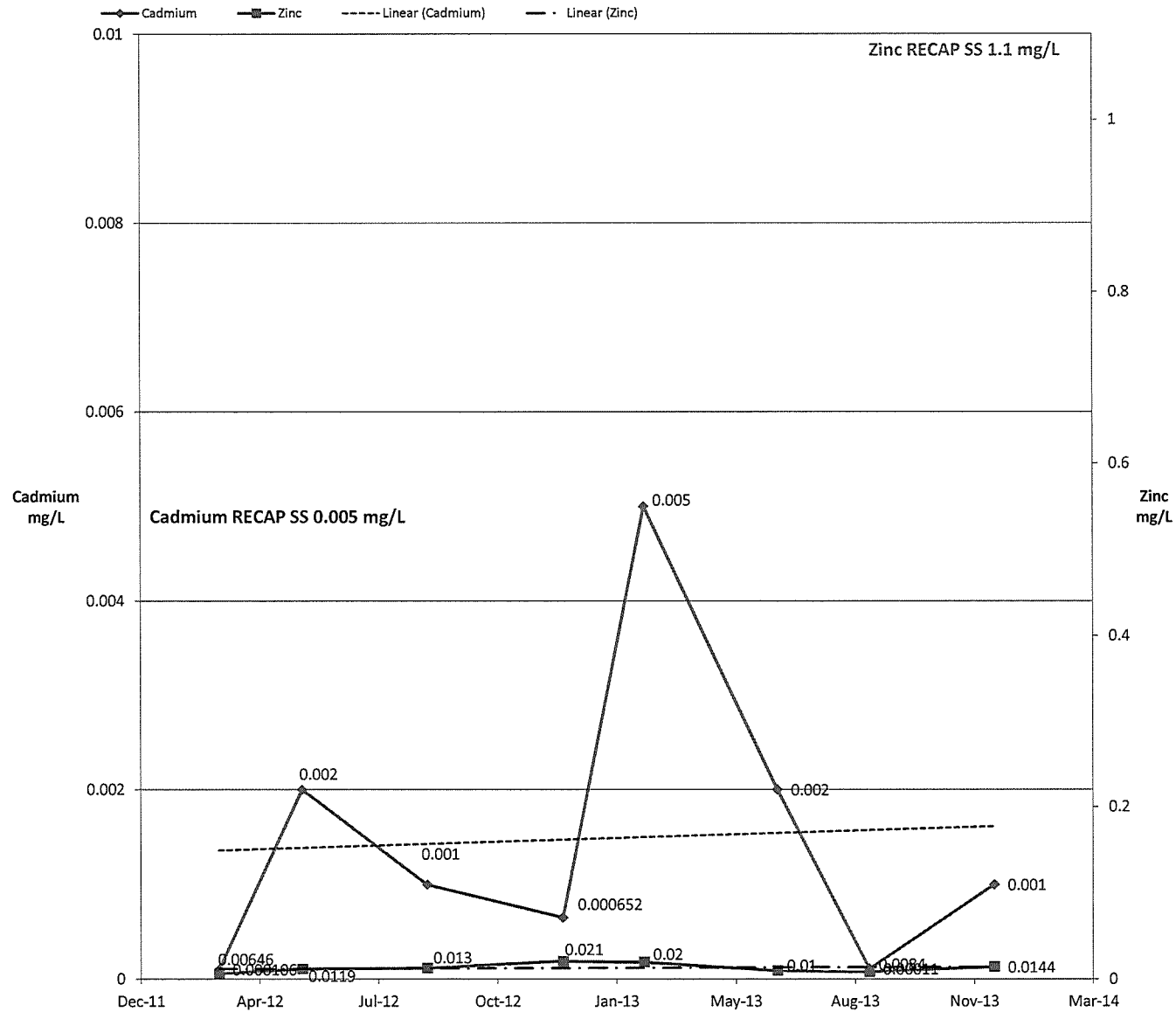
# South Well Arsenic and Manganese



### South Well Nickel

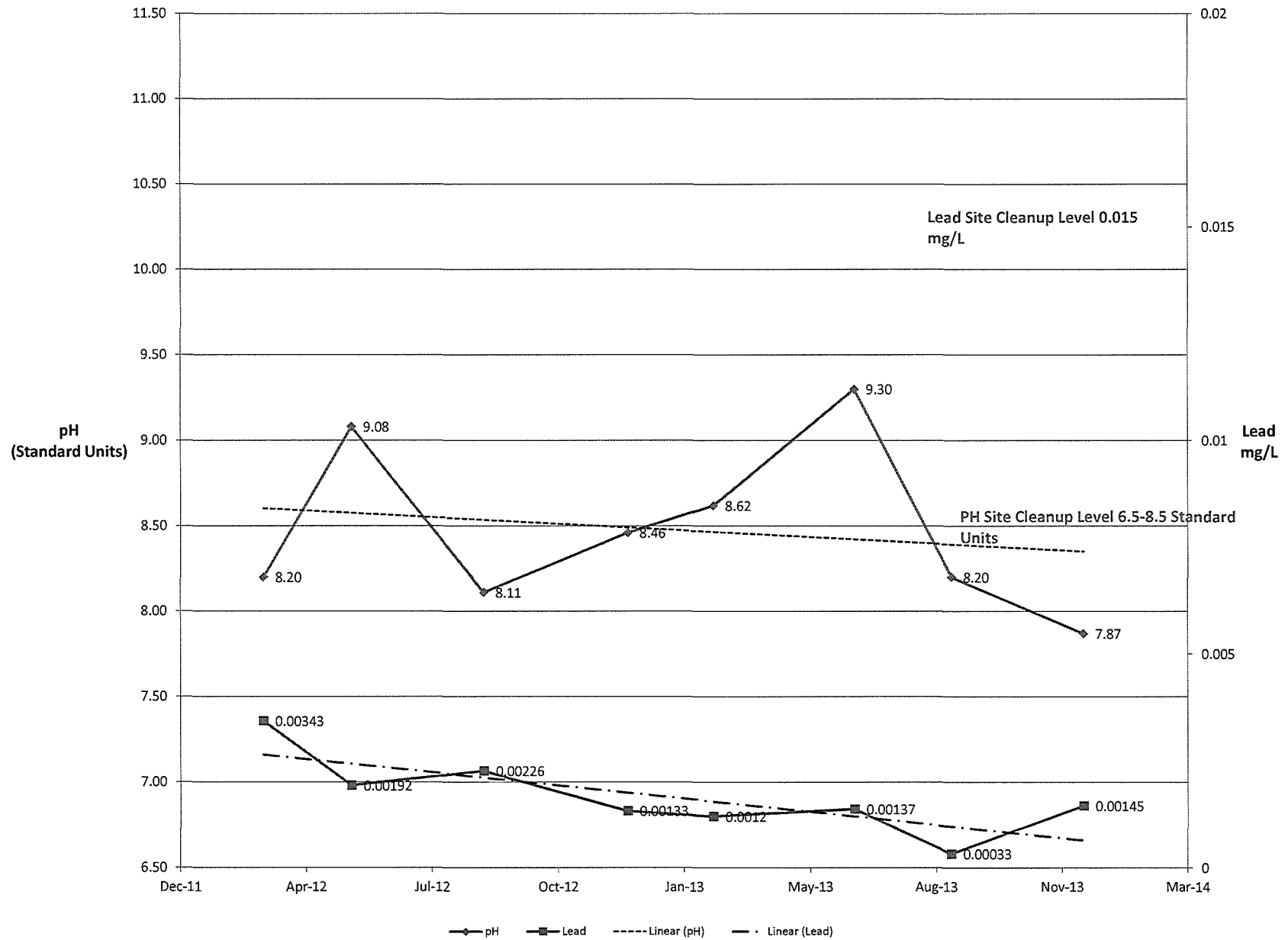


### South Well Cadmium and Zinc

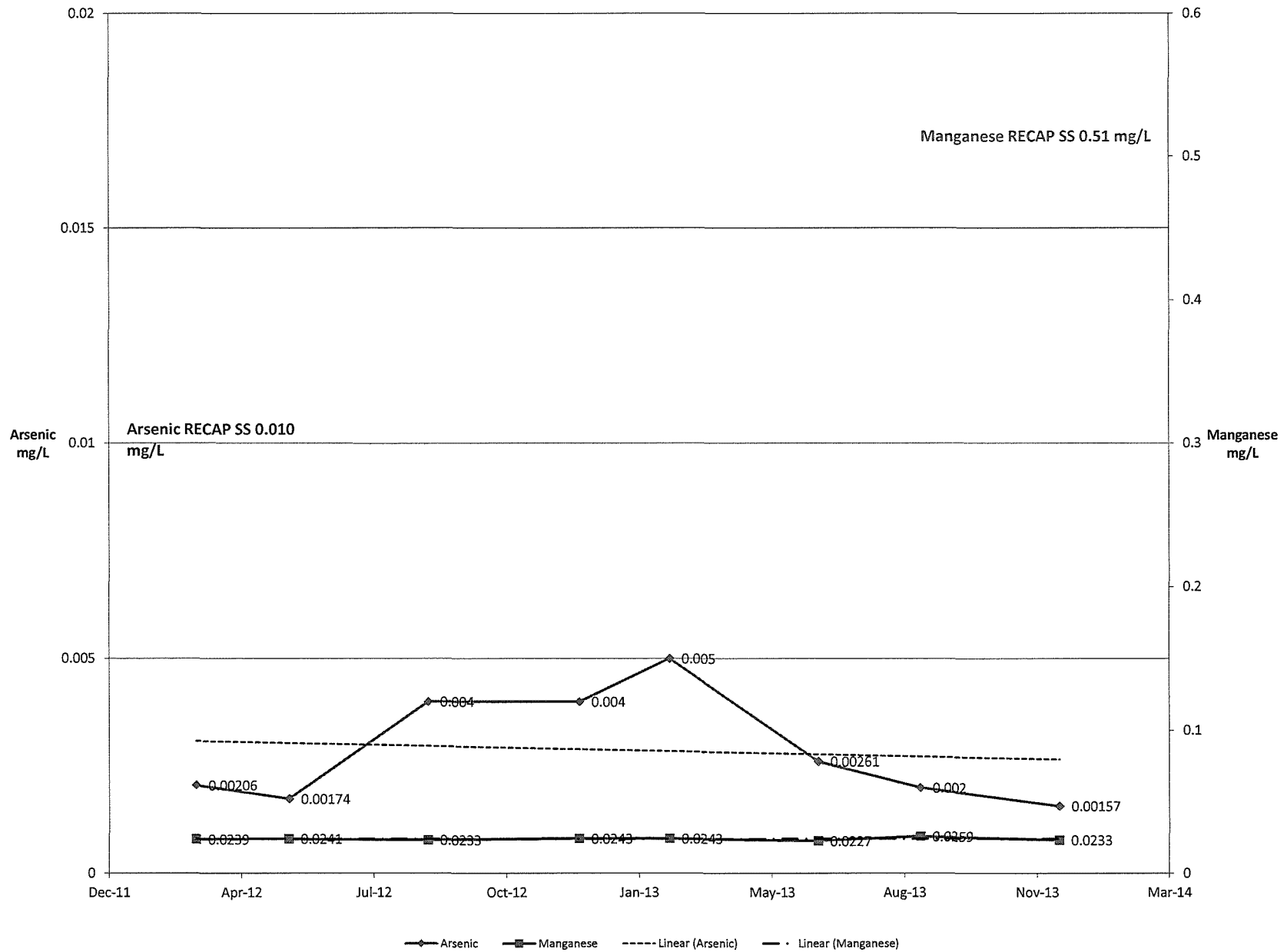




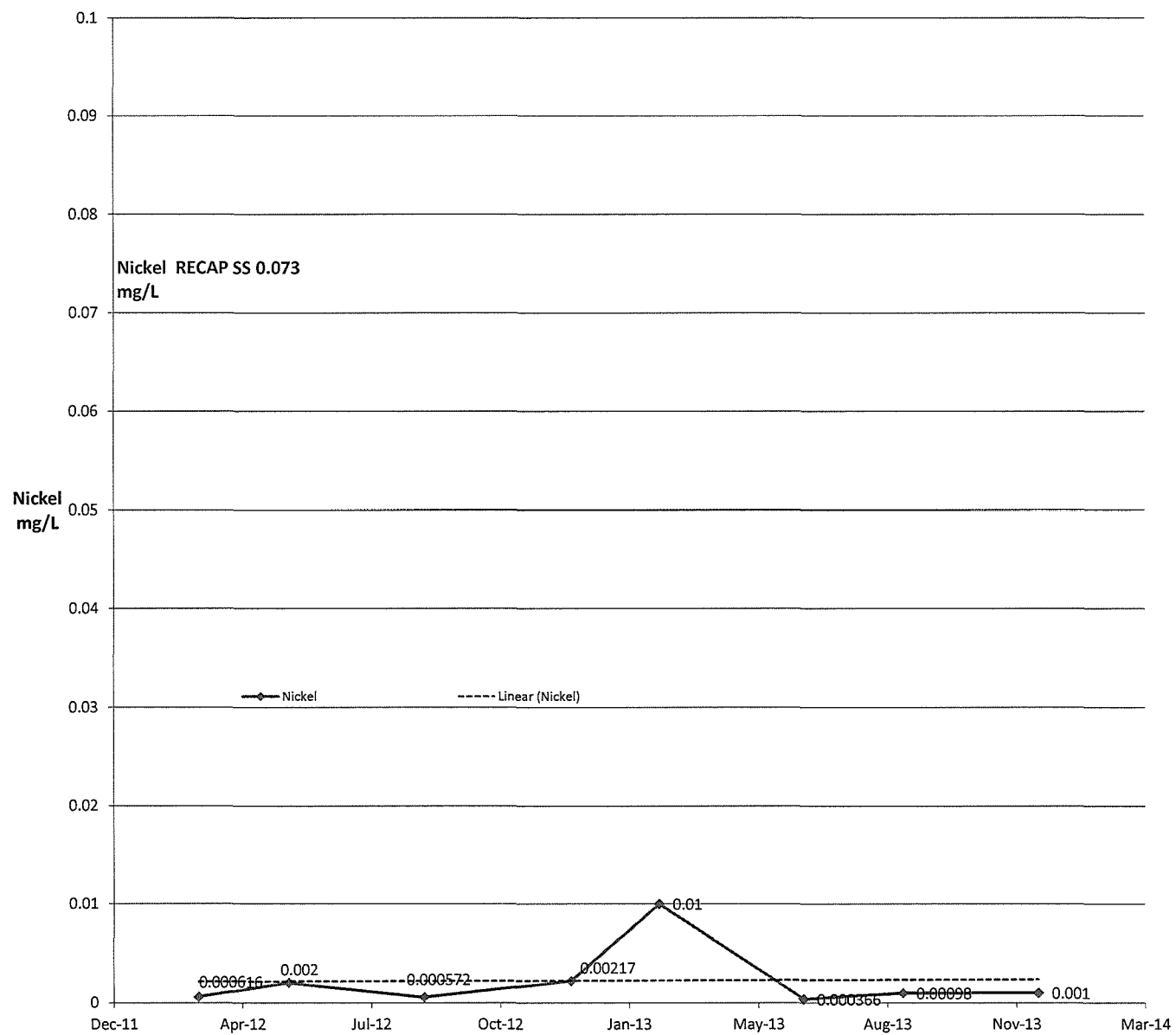
(b) (6) Well pH and Lead



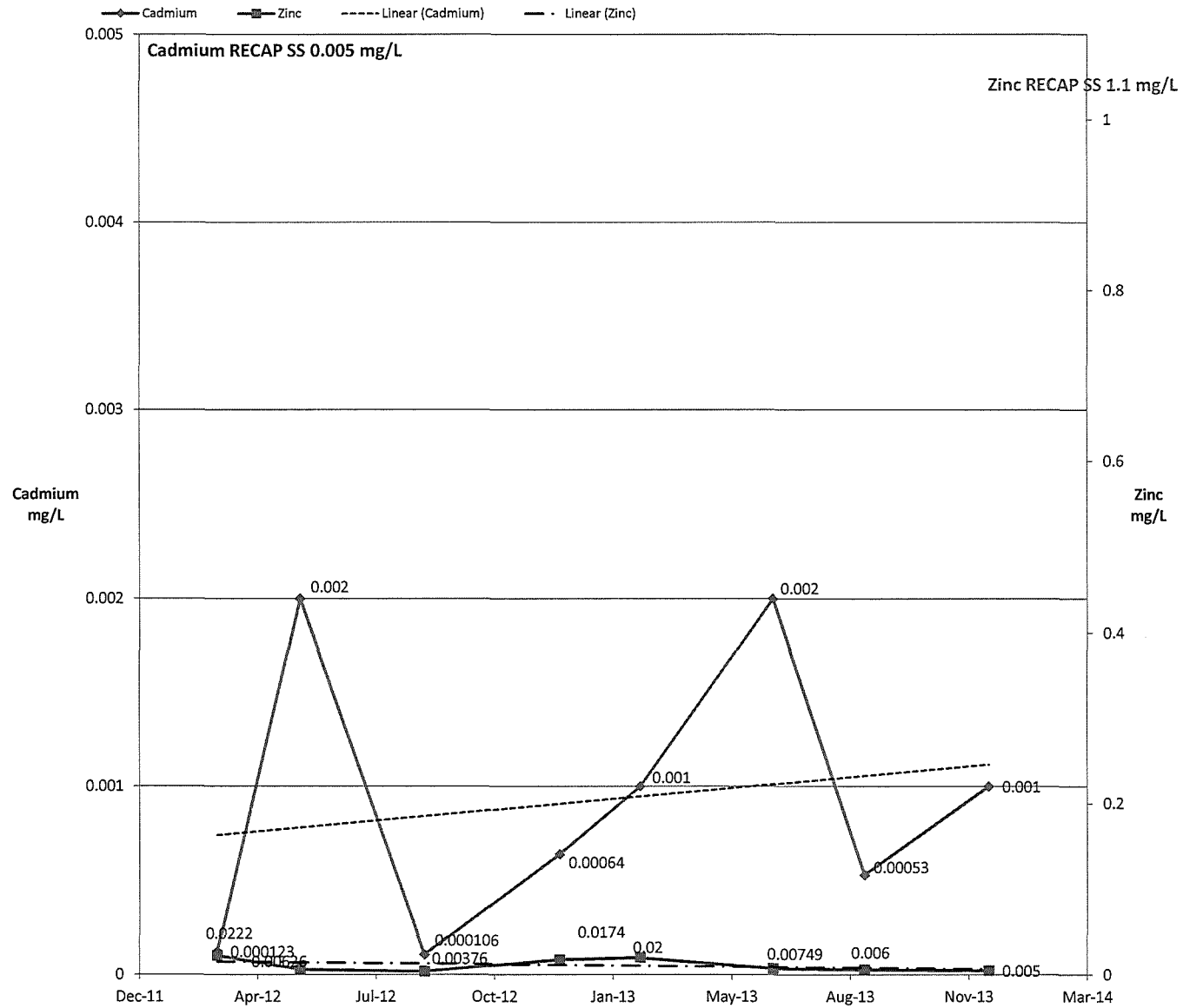
(b) (6) Well Arsenic and Manganese



(b) (6) Well Nickel

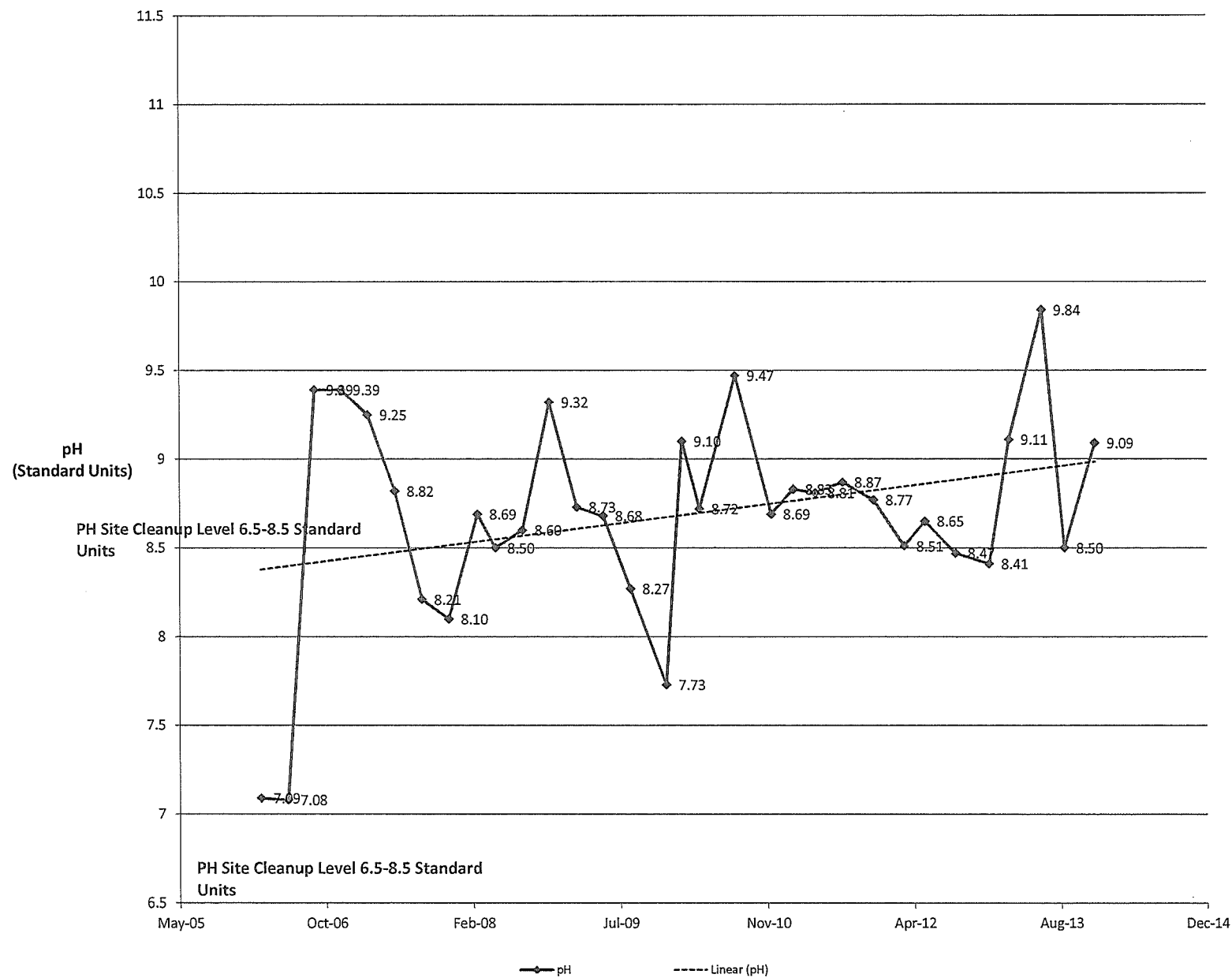


(b) (6) Well Cadmium and Zinc

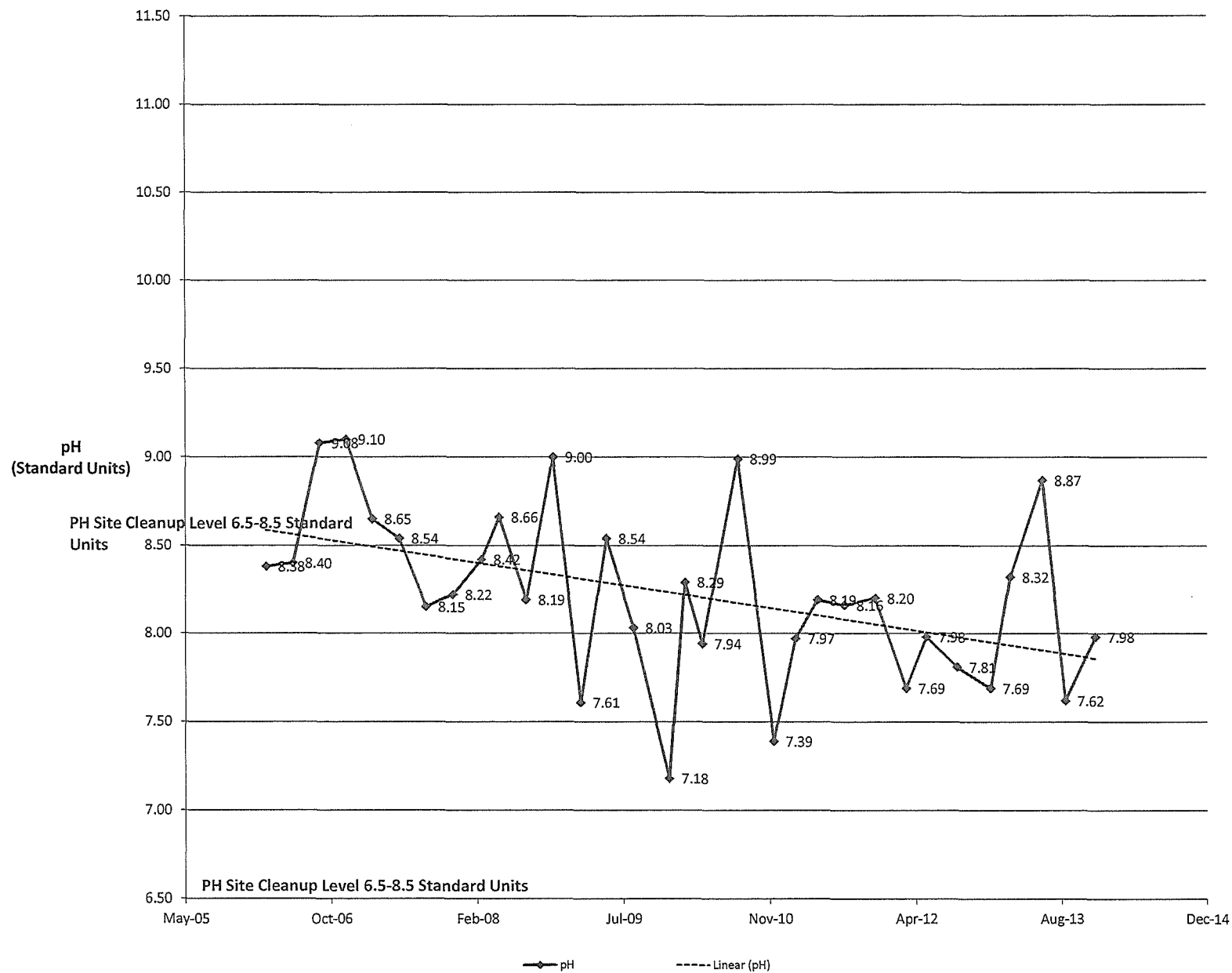


**WATER WELLS**  
**(SINCE 2006)**

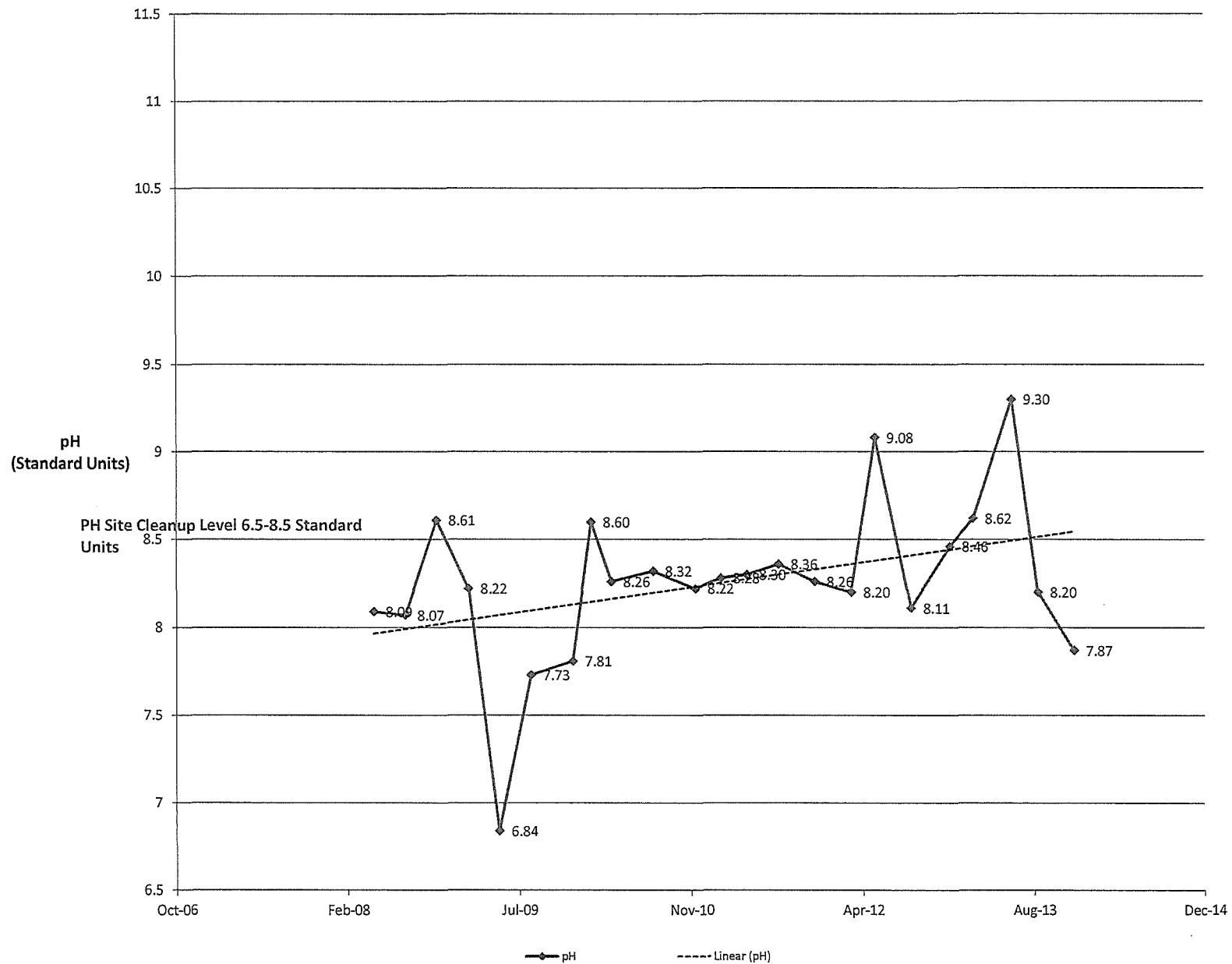
# WW-04 pH (Water Wells Since 2006)



# WW-09 pH (Water Wells Since 2006)



(b) (6) Well pH (Water Wells Since 2008)





**ATTACHMENT D**  
**DATA VALIDATION PACKAGE**

**Data Validation Report**  
**DELATTE METALS PROJECT**  
**SDG: 20162962                      February 2014**

## INTRODUCTION

### **Disclaimer**

The opinions expressed and the qualifiers and values assigned by TerraBase Incorporated™ (TerraBase) are based on information provided to us in a hardcopy raw data package and/or an electronic deliverable.

TerraBase assumes this information accurately and completely represents the samples and information received by the laboratory, the analyses performed by the laboratory, and the raw data and results provided by the laboratory.

If TerraBase discovers that for any reason the information is inaccurate or incomplete, or non-representative of the site, TerraBase reserves the right to modify or withdraw any information contained in this report.

# **DELATTE METALS PROJECT**

## **DATA VALIDATION REPORT**

**SDG: 20162962**  
**(4Q1213 – Validated)**

*Prepared for:*

**SEMS, Inc.**  
**Baton Rouge, LA**

TerraBase Project Number: 207  
February 2014

## INTRODUCTION

### Purpose of the Validation Report

Analytical data validation is a confirmatory procedure that evaluates client-generated laboratory data in accordance with definitive regulatory performance standards set forth by the USEPA.<sup>1,2</sup> TerraBase Incorporated™ (TerraBase) provides client assistance with data validation to ensure that analytical data are complete, in compliance with laboratory protocols, in agreement with the project data quality objectives, and are technically valid and legally defensible.

### Format of the Introduction Section

The introduction contains summary tables that permit the reader easy access to the validated detected results. The tables are identified as: 1) ***Table E 1 Sample Identification Cross-Reference Table***, 2) ***Table E 2 Summary of Validated Sample Detects Sorted by Client Sample and Fraction*** and 3) ***Table E 3 Summary of Validated Analyte Detects Sorted by Fraction, Analyte and Client Sample***. A brief description of the contents of each table is presented below.

#### Executive Summaries:

- 1) ***Table E 1 Sample Identification Cross-Reference Table:*** This table is a cross-reference of client sample names and laboratory names. It also references any consultants sample names, if they are available.
- 2) ***Table E 2 Summary of Validated Sample Detects Sorted by Client Sample and Fraction:*** Identification of all post-validation detected analytes by client or site sample location, fraction and analyte. The order of the analytical fractions appearing in this report follows the typical order found in a laboratory data package. That is, volatiles appear first, followed by semivolatiles, pesticides, herbicides, metals and conventionals. The detected analytes of each fraction are also displayed according to their order of appearance in the data package. This table also shows the sample type, sample matrix, extraction level, dilution factor and the method quantitation limits (MQL).
- 3) ***Table E 3 Summary of Validated Analyte Detects Sorted by Fraction, Analyte and Client Sample:*** Identification of all post-validation detected analytes by fraction, analyte and client site/sample location.

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<sup>1</sup>National Functional Guidelines For Organic Data Review, USEPA, October 1999

<sup>2</sup>National Functional Guidelines For Inorganic Data Review, USEPA, February 1994.

## INTRODUCTION

### Qualifier Definitions

- U - The analyte was analyzed for , but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a “tentative identification.”
- NJ - The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated value represents its approximate concentration.
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

### NOTES:

1. The results for 49 total water samples were received by TerraBase, Inc. on January 15, 2014. Five of these metal samples and two sulfate and sulfide samples were requested for full data validation by TerraBase, Inc. in order to meet the client's 10% validation criteria.
2. The samples were collected on December 9<sup>th</sup>, December 10<sup>th</sup>, December 11<sup>th</sup>, and December 12, 2014..
3. Pace Analytical Services, Inc. in St. Rose, LA received the samples on December 12, 2013.
4. All ICPMS results were analyzed by SW-846 method 6020A.
5. Sulfide samples were analyzed by SM Method 1500-S D.
6. Sulfate samples were analyzed by ASTM method D516-9.
7. Nine samples had both total and dissolved metal analysis requested. Fourteen of the samples had sulfate and sulfide analysis requested as well as total metal analysis. All of the remaining samples had just total metals requested.
8. Client samples DW-02, MW-02, TEPA-1H, (b) (6) Well, and BC-25 were the five samples that full data validation of metals was requested on. Client samples MW-02 and TEPA-1H were the two samples that had full data validation of sulfide and sulfate requested on them. This request was made on January 13, 2014.
9. In order to report both the validated and the original results, the validated samples were logged into TerraBase as SDG: 4Q1213.
10. Arsenic, cadmium, lead, manganese, nickel and zinc were analyzed by the laboratory as per the chain of custody.

## INTRODUCTION

11. The validator used all quality control samples available to provide the most complete and accurate data validation possible.
12. Field Duplicates were run on client samples BC-07, BC-21R, DW-02, MW-01, and BA-09 for total metals. Field duplicates were run on client samples MW-01 and BA-09 for sulfide and sulfate.
13. MS/MSD analysis was requested on client samples BB-01, BA-05A and DW-03 for metals analysis. MS/MSD analysis was requested on client sample DW-03 for sulfide and sulfate analysis.
14. A MS analysis was performed on client sample DW-03 for sulfide and sulfate, however, no MSD was analyzed.
15. An additional MS/MSD was analyzed on client sample CA-51 for metals though it was not requested on the COC.
16. Though validation was not required on client sample BA-05, the validator did notice the manganese result was above the calibration range. If it were to be validated, it would be considered estimated.
17. Though not required to have validation the relative percent difference for MW-01 and BA-09 and their respective field duplicates were above what would be considered an acceptable limit of  $\pm 20\%$  for sulfate.
18. Though not required to have validation the relative percent difference for BA-09 and its field duplicate was above what would be considered an acceptable limit of  $\pm 20\%$  for sulfide.

**E1 - Sample Identification Cross-Reference Table**

Site Samples Sorted by Fraction

Delatte Metals

4TH QUARTER LAB DATA

Lab: **PACEST / Pace Analytical Services, Inc.**SDG ID: **4Q1213**

Fraction	Client Sample	Lab Sample	Sample Type	Matrix	Level	Sampling Date/Time
<b>Metals</b>						
	(b) (6) WELL	201150629	Site Sample	Water	Low	12/09/2013 11:25
	BC-25	201150642	Site Sample	Water	Low	12/10/2013 9:13
	DW-02	201150654	Site Sample	Water	Low	12/11/2013 8:13
	MW-02	201150662	Site Sample	Water	Low	12/11/2013 13:09
	TEPA-1H	201150667	Site Sample	Water	Low	12/11/2013 14:53
<b>Conventionals</b>						
	MW-02	201150662	Site Sample	Water	Low	12/11/2013 13:09
	TEPA-1H	201150667	Site Sample	Water	Low	12/11/2013 14:53



**E2 - Summary of Validated Sample Detects**

Sorted by Client Sample, Fraction, and Elution Order

Delatte Metals  
4TH QUARTER LAB DATA

Lab: PACEST / Pace Analytical Services, Inc.

SDG ID: 4Q1213

Client Sample	Fraction	Analyte	Sample Type	Matrix	Level	Dilution Factor	RL	Validated Result	Units
<b>BC-25</b>									
	Metals								
		Manganese	Site Sample	Water	Low	1	1	183	µg/L
<b>DW-02</b>									
	Metals								
		Arsenic	Site Sample	Water	Low	1	1	14.4 J	µg/L
		Cadmium	Site Sample	Water	Low	1	1	18.4	µg/L
		Lead	Site Sample	Water	Low	1	1	15.4	µg/L
		Manganese	Site Sample	Water	Low	1	1	7,570	µg/L
		Nickel	Site Sample	Water	Low	1	1	292 J	µg/L
		Zinc	Site Sample	Water	Low	1	5	598 J	µg/L
<b>MW-02</b>									
	Metals								
		Cadmium	Site Sample	Water	Low	1	1	510	µg/L
		Lead	Site Sample	Water	Low	1	1	31.6	µg/L
		Manganese	Site Sample	Water	Low	1	1	663	µg/L
		Nickel	Site Sample	Water	Low	1	1	98.7 J	µg/L
		Zinc	Site Sample	Water	Low	1	5	447 J	µg/L
	Conventionals								
		Sulfate	Site Sample	Water	Low	10	10	332	mg/L
<b>(b) (6) WELL</b>									
	Metals								
		Arsenic	Site Sample	Water	Low	1	1	1.57 J	µg/L
		Lead	Site Sample	Water	Low	1	1	1.45	µg/L
		Manganese	Site Sample	Water	Low	1	1	23.3	µg/L
<b>TEPA-1H</b>									
	Metals								
		Arsenic	Site Sample	Water	Low	1	1	20.1 J	µg/L
		Manganese	Site Sample	Water	Low	1	1	3,200	µg/L
		Nickel	Site Sample	Water	Low	1	1	4.67 J	µg/L
	Conventionals								
		Sulfate	Site Sample	Water	Low	10	10	365	mg/L

Section page: 1

02/05/2014 09:08

rptGeneral\_SDG\_DetectsBySample

**Qualifiers:****J** - Estimated**B** - (Organics) Found in the associated method blank**D** - Reported from a dilution**E** - Exceeds calibration range**P** - (Pesticides) Difference in column concentrations > 25%**B** - (Inorganics) Lab qualifier - analyte detected between the instrument detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

# E3 - Summary of Validated Analyte Detects

Sorted by Fraction, Analyte and Client Sample

Delatte Metals  
4TH QUARTER LAB DATA

Lab: PACEST / Pace Analytical Services, Inc.

SDG ID: 4Q1213

Fraction	Analyte	Client Sample	Sample Type	Matrix	Level	Dilution Factor	RL	Validated Result	Units
<b>Metals</b>									
Arsenic									
	DW-02		Site Sample	Water	Low	1	1	14.4 J	µg/L
	(b) (6) WELL		Site Sample	Water	Low	1	1	1.57 J	µg/L
	TEPA-1H		Site Sample	Water	Low	1	1	20.1 J	µg/L
Cadmium									
	DW-02		Site Sample	Water	Low	1	1	18.4	µg/L
	MW-02		Site Sample	Water	Low	1	1	510	µg/L
Lead									
	DW-02		Site Sample	Water	Low	1	1	15.4	µg/L
	MW-02		Site Sample	Water	Low	1	1	31.6	µg/L
	(b) (6) WELL		Site Sample	Water	Low	1	1	1.45	µg/L
Manganese									
	BC-25		Site Sample	Water	Low	1	1	183	µg/L
	DW-02		Site Sample	Water	Low	1	1	7,570	µg/L
	MW-02		Site Sample	Water	Low	1	1	663	µg/L
	(b) (6) WELL		Site Sample	Water	Low	1	1	23.3	µg/L
	TEPA-1H		Site Sample	Water	Low	1	1	3,200	µg/L
Nickel									
	DW-02		Site Sample	Water	Low	1	1	292 J	µg/L
	MW-02		Site Sample	Water	Low	1	1	98.7 J	µg/L
	TEPA-1H		Site Sample	Water	Low	1	1	4.67 J	µg/L
Zinc									
	DW-02		Site Sample	Water	Low	1	5	598 J	µg/L
	MW-02		Site Sample	Water	Low	1	5	447 J	µg/L
<b>Conventionals</b>									
Sulfate									
	MW-02		Site Sample	Water	Low	10	10	332	mg/L
	TEPA-1H		Site Sample	Water	Low	10	10	365	mg/L

Section page: 1

02/05/2014 09:08

rptGeneral\_SDG\_DetectsByAnalyte

## Qualifiers:

J - Estimated

B - (Organics) Found in the associated method blank

D - Reported from a dilution

E - Exceeds calibration range

P - (Pesticides) Difference in column concentrations > 25%

B - (Inorganics) Lab qualifier - analyte detected between the instrument detection limit (IDL) and the RL

TerraBase®  
TerraBase Inc

METAL

## **DELATTE METALS PROJECT**

## **DATA VALIDATION REPORT**

**SDG: 20162962**  
(4Q1213- Validated)

*Prepared for:*

**SEMS, Inc.**  
**Baton Rouge, LA**

TerraBase Project Number: 207  
February 2014

## **TerraBase Data Validation Reporting Method**

The purpose of this section is to give the data user an understanding of the ideas and concepts associated with data validation in general and with the TerraBase, Inc.<sup>TM</sup> (TerraBase) method of reporting validated data.

### **Analyte Level Validation Issues**

TerraBase has developed a method for reporting validated data which utilizes a presentation of laboratory data issues and validation issues. This technique is based on the concept that issues encountered in the validation of laboratory data affect individual analytes of a sample. For instance, determining that a detected analyte in a sample was the result of laboratory contamination will cause only that analyte to be qualified.

### **TerraBase Codes: Standardizing the Description of Analytical Defects**

TerraBase has standardized the data validation process by developing a database of codes employed by our analysts to describe the various analytical defects that may occur with an analysis. Each code is associated with written text describing the problem and the qualification that may be applied. For instance, the code that would be applied to an analyte that was determined to be a result of laboratory contamination would be BC (Blank Contamination). A complete listing of the analyte qualification parameters and their respective codes are presented below in *Analyte Qualification Codes*.

#### *Analyte Qualification Codes*

- CO      Comment
- HT      Holding Time
- IC      Initial Calibration
- CC      Continuing Calibration
- BC      Blank Contamination
- MS      Matrix Spike Effects
- TC      Target Compound Identification
- CQ      Compound Quantitation
- TI      Tentatively Identified Compound
- SD      System Monitoring Compound
- IS      Internal Standard
- TU      GC/MS Tune Criteria

- AS Analytical Sequence

## Metal Section Reporting Format

The Metal Section of this data validation report is divided into 1) a text-formatted report which describes the contents of the laboratory data package and 2) a number of tabular reports which allow the data user to readily obtain information about the results of the data validation. Below is a description of the type of information contained in these tabular reports.

- 1) *Narrative of the Sample Delivery Group (SDG):* This section provides general information that pertains to the data package, such as the date of receipt, the number and type of samples, the laboratory performing the analysis, the instrumentation utilized to perform the analysis, the method of analysis, and the number and type of quality control parameters reported by the laboratory. Additionally, any other pertinent issues dealing with the laboratory or the data package may be noted in this section.
- 2) ***Table M1** Summary of Metal Data Validation Issues:* This table represents a bulleted summary of all metal samples that were validated for analyte level defects and provides a quick view of any issues that were associated with this sample delivery group. A bullet represents the assignment of a comment and/or qualifier by the data validator for a specific sample. The nature of a qualification can be found in ***Table M2** Metal Analyte Qualification Summary*.
- 3) ***Table M2** Metal Analyte Qualification Summary:* This tabular report displays all of the analyte-level data validation issues checked (*Analyte Qualification Codes*). The table indicates the client sample name, the analyte that has been qualified, the qualification code, the lab result and its qualifier and units, the validated result and the validation qualifier and units. Explanations of the actions taken by the validator are explained in ***Table M3** Metal Analyte Qualification Comments*.
- 4) ***Table M3** Metal Analyte Qualification Comments:* This report contains an explanation of each problem and any qualification which was documented in ***Table M2** Metal Analyte Qualification Summary*.
- 5) ***Table M4** Validated Metal Results:* This report displays all the analytical and validated information in a one-sample per-page view. It includes the metal analyte list, analytical extraction level, dilution factor, method quantitation limits per analyte, the results for each analyte and the units of measure for each analyte.

## Narrative of Sample Delivery Group (SDG): 20162962

The results for forty-nine site water samples were analyzed by Pace Analytical Services, Inc. for metals were received by TerraBase, Inc. for full data validation. The laboratory utilized an ICP-MS according to SW-846 Method 6020A. The following quality control parameters were reported in the data package:

QC : ICP: 6020A TOTAL METALS As, Cd, Pb, Mn, Ni, Zn
• 4 method blank(s)
• 4 matrix spike(s)
• 4 matrix spike duplicate(s)
• 0 lab duplicate(s)
• 4 linear dilution sample(s)
• 0 post digestion spike(s)
• 0 post digestion spike duplicate(s)
• 4 laboratory control sample(s)
• 0 laboratory control sample dup(s)

### NOTES:

1. The results for 49 total water samples were received by TerraBase, Inc. on January 15, 2014. Five of these metal samples and two sulfate and sulfide samples were requested for full data validation by TerraBase, Inc. in order to meet the client's 10% validation criteria.
2. The samples were collected on December 9<sup>th</sup>, December 10<sup>th</sup>, December 11<sup>th</sup>, and December 12, 2014..
3. Pace Analytical Services, Inc. in St. Rose, LA received the samples on December 12, 2013.
4. All ICPMS results were analyzed by SW-846 method 6020A.
5. Nine samples had both total and dissolved metal analysis requested. Fourteen of the samples had sulfate and sulfide analysis requested as well as total metal analysis. All of the remaining samples had just total metals requested.
6. Client samples DW-02, MW-02, TEPA-1H, (b) (6) Well, and BC-25 were the five samples that full data validation of metals was requested on. This request was made on January 13, 2014.
7. In order to report both the validated and the original results, the validated samples were logged into TerraBase as SDG: 4Q1213.
8. Arsenic, cadmium, lead, manganese, nickel and zinc were analyzed by the laboratory as per the chain of custody.
9. The validator used all quality control samples available to provide the most complete and accurate data validation possible.

## METAL

10. Field Duplicates were run on client samples BC-07, BC-21R, DW-02, MW-01, and BA-09 for total metals. MS/MSD analysis was requested on client samples BB-01, BA-05A and DW-03 for metals analysis.
11. An additional MS/MSD was analyzed on client sample CA-51 for metals though it was not requested on the COC.
12. Though validation was not required on client sample BA-05, the validator did notice the manganese result was above the calibration range. If it were to be validated, it would be considered estimated.
13. The linear dilution sample did not pass the required limits for Nickel and Zinc on client sample DW-03.
14. The MS/MSD recovery was outside of acceptable limits on client sample DW-03 for Arsenic, Nickel and Zinc. It appeared to be outside limits for manganese also but, this was deemed not a concern in validation because the initial sample result was greater than four times the spike level added to it.

**M1 - Summary of Metal Data Validation Issues**

Sorted by SDG Print Sequence Number

Delatte Metals

**4TH QUARTER LAB DATA**Lab: **PACEST / Pace Analytical Services, Inc.**

SDG ID:

**4Q1213**

Client Sample	Analyte Qualification							
	AS	CO	HT	IC	CC	BC	MS	CQ
BC-25							•	•
DW-02							•	•
MW-02							•	•
(b) (6) WELL							•	•
TEPA-1H							•	•

**All samples were validated. A bullet (•) denotes sample qualification.****Analyte Qualification Codes:****AS** - Analytical sequence**CO** - Comment**HT** - Holding time**IC** - Initial calibration**CC** - Continuing calibration**BC** - Blank contamination**MS** - Matrix spike effects**CQ** - Compound/parameter quantitation

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rptDV\_ProblemSummary\_M



**M2 - Metal Analyte Qualification Summary**

Prepared by TerraBase, Inc.

Delatte Metals  
4TH QUARTER LAB DATA

Lab: PACEST / Pace Analytical Services, Inc.

SDG ID: 4Q1213

Client Sample	Analyte Name	AS	CO	HT	IC	CC	BC	MS	CQ	Lab Result	Units	Validated Result	Units
BC-25	Arsenic	-	-	-	-	-	-	21	21	1 U	µg/L	1 UJ	µg/L
	Nickel	-	-	-	-	-	-	21	21	1 U	µg/L	1 UJ	µg/L
	Zinc	-	-	-	-	-	-	21	21	5 U	µg/L	5 UJ	µg/L
DW-02	Arsenic	-	-	-	-	-	-	21	21	14.4	µg/L	14.4 J	µg/L
	Nickel	-	-	-	-	-	-	21	21	292	µg/L	292 J	µg/L
	Zinc	-	-	-	-	-	-	21	21	598	µg/L	598 J	µg/L
MW-02	Arsenic	-	-	-	-	-	-	21	21	1 U	µg/L	1 UJ	µg/L
	Nickel	-	-	-	-	-	-	21	21	98.7	µg/L	98.7 J	µg/L
	Zinc	-	-	-	-	-	-	21	21	447	µg/L	447 J	µg/L
(b) (6) WELL													
	Arsenic	-	-	-	-	-	-	21	21	1.57	µg/L	1.57 J	µg/L
	Nickel	-	-	-	-	-	-	21	21	1 U	µg/L	1 UJ	µg/L
	Zinc	-	-	-	-	-	-	21	21	5 U	µg/L	5 UJ	µg/L
TEPA-1H	Arsenic	-	-	-	-	-	-	21	21	20.1	µg/L	20.1 J	µg/L
	Nickel	-	-	-	-	-	-	21	21	4.67	µg/L	4.67 J	µg/L
	Zinc	-	-	-	-	-	-	21	21	5 U	µg/L	5 UJ	µg/L

TerraBase®  
TerraBase Inc**Analyte Qualification Codes:****AS** - Analytical sequence**CO** - Comment**HT** - Holding time**IC** - Initial calibration**CC** - Continuing calibration**BC** - Blank contamination**MS** - Matrix spike effects**CQ** - Compound/parameter quantitation**Analyte Qualifiers:****U** - Non-detected**J** - Estimated**R** - Unusable**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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rptDV\_Qualification  
Summary\_M\_A

**M3 - Metal Analyte Qualification Comments**

Prepared by TerraBase, Inc.

Delatte Metals

4TH QUARTER LAB DATA

Lab: **PACEST / Pace Analytical Services, Inc.**SDG ID: **4Q1213**Qualification Category: **MS**Qualification Code: **21**

Qualification Description: The recovery of the pre-digestion matrix spike for an analyte was low.

Qualification Action: The pre-digestion spike is prepared by adding a known amount of an analyte to the sample before the acid digestion. If the spike recovery is below acceptable limits, results in all samples for the affected analyte may be biased on the low side. The results reported are assumed to be the minimum possible value. All results are qualified as estimated (J) and estimated non-detected (UJ). If a spike recovery is less than 30%, non-detected results may be qualified as unusable (R).

Qualification Category: **CQ**Qualification Code: **21**

Qualification Description: The percent difference for the ICP serial dilution was outside of the acceptance limits.

Qualification Action: The flow rate of the sample solution through the ICP nebulizer must be the same for the calibration standards as well as the samples. There are several factors (such as high salt) which will alter the flow rate. The performance of the linear dilution check sample will indicate when this interfering effect is present. If the linear dilution performance is outside of the acceptance criteria, all positive results are qualified as estimated (J).

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rptDV\_Comments\_M\_A

**Qualification Categories:****CO** - Comment**HT** - Holding time**IC** - Initial calibration**CC** - Continuing calibration**BC** - Blank contamination**MS** - Matrix spike effects**TC** - TCL compound ID**CQ** - Compound/parameter quantitation**TI** - Tentatively identified compound**SD** - Surrogate deficiencies**IS** - Internal standard

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## M4 - Validated Metal Results

Delatte Metals  
4TH QUARTER LAB DATAClient Sample ID: (b) (6) WELL  
Sample Type: Site Sample (total)  
Lab Sample ID: 201150629Matrix: Water  
% Solids: NA  
Sampling Date/Time: 12/09/2013 11:25Lab ID: PACEST  
SDG ID: 4Q1213  
SDG Page: 0

CAS Number	Analyte Name	Method	D/F	RL	Validated Results	Units
7440-38-2	Arsenic	6020A	1	1	1.57 J	µg/L *
7440-43-9	Cadmium	6020A	1	1	1 U	µg/L
7439-92-1	Lead	6020A	1	1	1.45	µg/L
7439-96-5	Manganese	6020A	1	1	23.3	µg/L
7440-02-0	Nickel	6020A	1	1	1 UJ	µg/L *
7440-66-6	Zinc	6020A	1	5	5 UJ	µg/L *

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rptDV\_Form4\_M

U - Non-detected

J - Estimated

R - Unusable

RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RL

\* - Modification by data validation

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## M4 - Validated Metal Results

Delatte Metals  
4TH QUARTER LAB DATA

Client Sample ID: <b>BC-25</b>	Matrix: <b>Water</b>	Lab ID: <b>PACEST</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>4Q1213</b>
Lab Sample ID: <b>201150642</b>	Sampling Date/Time: <b>12/10/2013 9:13</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Validated Results	Units
7440-38-2	Arsenic	6020A	1	1	1 UJ	µg/L *
7440-43-9	Cadmium	6020A	1	1	1 U	µg/L
7439-92-1	Lead	6020A	1	1	1 U	µg/L
7439-96-5	Manganese	6020A	1	1	183	µg/L
7440-02-0	Nickel	6020A	1	1	1 UJ	µg/L *
7440-66-6	Zinc	6020A	1	5	5 UJ	µg/L *

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rptDV\_Form4\_M

U - Non-detected

J - Estimated

R - Unusable

RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RL

\* - Modification by data validation

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**M4 - Validated Metal Results**

Delatte Metals  
4TH QUARTER LAB DATA

Client Sample ID: **DW-02** Matrix: **Water** Lab ID: **PACEST**  
Sample Type: **Site Sample (total)** % Solids: **NA** SDG ID: **4Q1213**  
Lab Sample ID: **201150654** Sampling Date/Time: **12/11/2013 8:13** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Validated Results	Units
7440-38-2	Arsenic	6020A	1	1	14.4 J	µg/L *
7440-43-9	Cadmium	6020A	1	1	18.4	µg/L
7439-92-1	Lead	6020A	1	1	15.4	µg/L
7439-96-5	Manganese	6020A	1	1	7,570	µg/L
7440-02-0	Nickel	6020A	1	1	292 J	µg/L *
7440-66-6	Zinc	6020A	1	5	598 J	µg/L *

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RL**\*** - Modification by data validationTerraBase®  
TerraBase Inc

**M4 - Validated Metal Results****Delatte Metals**  
**4TH QUARTER LAB DATA**

Client Sample ID: **MW-02** Matrix: **Water** Lab ID: **PACEST**  
Sample Type: **Site Sample (total)** % Solids: **NA** SDG ID: **4Q1213**  
Lab Sample ID: **201150662** Sampling Date/Time: **12/11/2013 13:09** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Validated Results	Units
7440-38-2	Arsenic	6020A	1	1	1 UJ	µg/L *
7440-43-9	Cadmium	6020A	1	1	510	µg/L
7439-92-1	Lead	6020A	1	1	31.6	µg/L
7439-96-5	Manganese	6020A	1	1	663	µg/L
7440-02-0	Nickel	6020A	1	1	98.7 J	µg/L *
7440-66-6	Zinc	6020A	1	5	447 J	µg/L *

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RL

\* - Modification by data validation

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## M4 - Validated Metal Results

Delatte Metals  
4TH QUARTER LAB DATA

Client Sample ID: **TEPA-1H** Matrix: **Water** Lab ID: **PACEST**  
Sample Type: **Site Sample (total)** % Solids: **NA** SDG ID: **4Q1213**  
Lab Sample ID: **201150667** Sampling Date/Time: **12/11/2013 14:53** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Validated Results	Units
7440-38-2	Arsenic	6020A	1	1	20.1 J	µg/L *
7440-43-9	Cadmium	6020A	1	1	1 U	µg/L
7439-92-1	Lead	6020A	1	1	1 U	µg/L
7439-96-5	Manganese	6020A	1	1	3,200	µg/L
7440-02-0	Nickel	6020A	1	1	4.67 J	µg/L *
7440-66-6	Zinc	6020A	1	5	5 UJ	µg/L *

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rplDV\_Form4\_M

U - Non-detected

J - Estimated

R - Unusable

RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RL

\* - Modification by data validation

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CONVENTIONALS

## **DELATTE METALS PROJECT**

## **DATA VALIDATION REPORT**

**SDG: 20162962**  
(4Q1213 – Validated)

*Prepared for:*

**SEMS, Inc.**  
**Baton Rouge, LA**

TerraBase Project Number: 207  
February 2014



### **TerraBase Data Validation Reporting Method**

The purpose of this section is to give the data user an understanding of the ideas and concepts associated with data validation in general and with the TerraBase, Inc.<sup>™</sup> (TerraBase) method of reporting validated data.

#### **Analyte Level Validation Issues**

TerraBase has developed a method for reporting validated data which utilizes a presentation of laboratory data issues and validation issues. This technique is based on the concept that issues encountered in the validation of laboratory data affect individual analytes of a sample. For instance, determining that a detected analyte in a sample was the result of laboratory contamination will cause only that analyte to be qualified.

#### **TerraBase Codes: Standardizing the Description of Analytical Defects**

TerraBase has standardized the data validation process by developing a database of codes employed by our analysts to describe the various analytical defects that may occur with an analysis. Each code is associated with written text describing the problem and the qualification that may be applied. For instance, the code that would be applied to an analyte that was determined to be a result of laboratory contamination would be BC (Blank Contamination). A complete listing of the analyte qualification parameters and their respective codes are presented below in *Analyte Qualification Codes*.

#### *Analyte Qualification Codes*

- CO      Comment
- HT      Holding Time
- IC      Initial Calibration
- CC      Continuing Calibration
- BC      Blank Contamination
- MS      Matrix Spike Effects
- TC      Target Compound Identification
- CQ      Compound Quantitation
- TI      Tentatively Identified Compound
- SD      System Monitoring Compound
- IS      Internal Standard
- TU      GC/MS Tune Criteria

## CONVENTIONALS

- AS Analytical Sequence

### Conventionals Section Reporting Format

The Conventionals Section of this data validation report is divided into 1) a text-formatted report which describes the contents of the laboratory data package and 2) a number of tabular reports which allow the data user to readily obtain information about the results of the data validation. Below is a description of the type of information contained in these tabular reports.

- 1) *Narrative of the Sample Delivery Group (SDG)*: This section provides general information that pertains to the data package, such as the date of receipt, the number and type of samples, the laboratory performing the analysis, the instrumentation utilized to perform the analysis, the method of analysis, and the number and type of quality control parameters reported by the laboratory. Additionally, any other pertinent issues dealing with the laboratory or the data package may be noted in this section.
- 2) ***Table C1** Summary of Conventional Data Validation Issues*: This table represents a bulleted summary of all conventional samples that were validated for analyte level defects and provides a quick view of any issues that were associated with this sample delivery group. A bullet represents the assignment of a comment and/or qualifier by the data validator for a specific sample. The nature of a qualification can be found in ***Table C2** Conventional Analyte Qualification Summary*.
- 3) ***Table C2** Conventional Analyte Qualification Summary*: This tabular report displays all of the analyte-level data validation issues checked (*Analyte Qualification Codes*). The table indicates the client sample name, the analyte that has been qualified, the qualification code, the lab result and its qualifier and units, the validated result and the validation qualifier and units. Explanations of the actions taken by the validator are explained in ***Table C3** Conventional Analyte Qualification Comments*.
- 4) ***Table C3** Conventional Analyte Qualification Comments*: This report contains an explanation of each problem and any qualification which was documented in ***Table M2** Conventional Analyte Qualification Summary*.
- 5) ***Table C4** Validated Conventional Results*: This report displays all the analytical and validated information in a one-sample per-page view. It includes the conventional analyte list, analytical extraction level, dilution factor, method quantitation limits per analyte, the results for each analyte and the units of measure for each analyte.

## CONVENTIONALS

### Narrative of Sample Delivery Group (SDG): 20162962

The results for fourteen site water samples were analyzed by Pace Analytical Services, Inc. for sulfide and sulfate were received by TerraBase, Inc. for full data validation. The following quality control parameters were reported in the data package:

QC : Sulfide	QC : Sulfate
• 1 method blank(s)	• 1 method blank(s)
• 1 matrix spike(s)	• 1 matrix spike(s)
• 0 matrix spike duplicate(s)	• 0 matrix spike duplicate(s)
• 0 lab duplicate(s)	• 0 lab duplicate(s)
• 1 laboratory control sample(s)	• 1 laboratory control sample(s)
• 0 laboratory control sample dup(s)	• 0 laboratory control sample dup(s)

#### NOTES:

1. The results for 49 total water samples were received by TerraBase, Inc. on January 15, 2014. Five of these metal samples and two sulfate and sulfide samples were requested for full data validation by TerraBase, Inc. in order to meet the client's 10% validation criteria.
2. The samples were collected on December 9<sup>th</sup>, December 10<sup>th</sup>, December 11<sup>th</sup>, and December 12, 2014..
3. Pace Analytical Services, Inc. in St. Rose, LA received the samples on December 12, 2013.
4. Sulfide samples were analyzed by SM Method 1500-S D.
5. Sulfate samples were analyzed by ASTM method D516-9.
6. Fourteen of the samples had sulfate and sulfide analysis requested as well as total metal analysis.
7. Client samples MW-02 and TEPA-1H were the two samples that had full data validation of sulfide and sulfate requested on them. This request was made on January 13, 2014.
8. In order to report both the validated and the original results, the validated samples were logged into TerraBase as SDG: 4Q1213.
9. The validator used all quality control samples available to provide the most complete and accurate data validation possible.
10. Field duplicates were run on client samples MW-01 and BA-09 for sulfide and sulfate.
11. MS/MSD analysis was requested on client sample DW-03 for sulfide and sulfate analysis.
12. A MS analysis was performed on client sample DW-03 for sulfide and sulfate, however, no MSD was analyzed.
13. Though not required to have validation the relative percent difference for MW-01 and BA-09 and their respective field duplicates were above what would be considered an acceptable limit of  $\pm 20\%$  for sulfate.
14. Though not required to have validation the relative percent difference for BA-09 and its field duplicate was above what would be considered an acceptable limit of  $\pm 20\%$  for sulfide.

**C1 - Summary of Conventional Data Validation Issues**

Sorted by SDG Print Sequence Number

Delatte Metals

4TH QUARTER LAB DATA

Lab: PACEST / Pace Analytical Services, Inc.

SDG ID:

4Q1213

Client Sample	Parameter Qualification						
	CO	HT	IC	CC	BC	MS	CQ
MW-02							
TEPA-1H							

**All samples were validated. A bullet (•) denotes parameter qualification.****Parameter Qualification Codes:****CO** - Comment**HT** - Holding time**IC** - Initial calibration**CC** - Continuing calibration**BC** - Blank contamination**MS** - Matrix spike effects**CQ** - Compound/parameter quantitation

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C2 -Conventional Parameter Qualification Summary

Prepared by TerraBase, Inc.

Delatte Metals  
4TH QUARTER LAB DATA

Lab: PACEST / Pace Analytical Services, Inc.

SDG ID: 4Q1213

Client Sample	Parameter Name	CO	HT	IC	CC	BC	MS	CQ	Lab Result	Units	Verified Result	Units
------------------	----------------	----	----	----	----	----	----	----	------------	-------	--------------------	-------

No conventional samples received parameter qualifiers in this sample delivery group.

TerraBase® TerraBase Inc	<b>Parameter Qualification Codes:</b>				<b>Parameter Qualifiers:</b>				Section page: 1
	CO	- Comment	MS	- Matrix spike effects	U	- Non-detected			02/05/2014 09:09
	HT	- Holding time	CQ	- Compound/parameter quantitation	J	- Estimated			
	IC	- Initial calibration			R	- Unusable			
	CC	- Continuing calibration							rptDV_Qualification Summary_C_B
	BC	- Blank contamination							

**C3 - Conventional Parameter Qualification Comments**

Prepared by TerraBase, Inc.

Delatte Metals

4TH QUARTER LAB DATA

Lab: **PACEST / Pace Analytical Services, Inc.**

SDG ID:

**4Q1213**

**No conventional samples received parameter qualifiers in this sample delivery group.**

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rptDV\_Comments\_C\_B

**Qualification Categories:****CO** - Comment**HT** - Holding time**IC** - Initial calibration**CC** - Continuing calibration**MS** - Matrix spike effects**CQ** - Compound/parameter quantitation**BC** - Blank contaminationTerraBase®  
TerraBase Inc

**C4 - Validated Conventional Results****Delatte Metals**  
**4TH QUARTER LAB DATA**Client Sample ID: **MW-02**Matrix: **Water**Lab ID: **PACEST**Sample Type: **Site Sample**SDG ID: **4Q1213**Lab Sample ID: **201150662**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Validated Results	Units
95-06-7	Sulfate	12/11/2013 13:09	D516-9	10	10	332	mg/L
18496-25-8	Sulfide	12/11/2013 13:09	4500-S	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)**\*** - Modification by data validationTerraBase®  
TerraBase Inc

**C4 - Validated Conventional Results****Delatte Metals**  
**4TH QUARTER LAB DATA**

Client Sample ID: <b>TEPA-1H</b>	Matrix: <b>Water</b>	Lab ID: <b>PACEST</b>
Sample Type: <b>Site Sample</b>		SDG ID: <b>4Q1213</b>
Lab Sample ID: <b>201150667</b>		SDG Page: <b>0</b>

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Validated Results	Units
95-06-7	Sulfate	12/11/2013 13:09	D516-9	10	10	365	mg/L
18496-25-8	Sulfide	12/11/2013 13:09	4500-S	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)**\*** - Modification by data validationTerraBase®  
TerraBase Inc



# **DELATTE METALS PROJECT**

## **ALL LAB LEVEL RESULTS**

**SDG: 20162962**

*Prepared for:*

**SEMS, Inc.  
Baton Rouge, LA**

TerraBase Project Number: 207  
February 2014

**E1 - Sample Identification Cross-Reference Table**  
Site Samples Sorted by Fraction

**Delatte Metals**  
**20162962**

Lab: **PACE / PACE**

SDG ID: **20162962**

Fraction	Client Sample	Lab Sample	Sample Type	Matrix	Level	Sampling Date/Time
<b>Metals</b>						
	CA-51	201150624	Site Sample (dissolved)	Water	Low	12/09/2013 9:15
	CA-41	201150625	Site Sample (dissolved)	Water	Low	12/09/2013 9:30
	BRIDGE	201150626	Site Sample (dissolved)	Water	Low	12/09/2013 9:45
	CL-05	201150627	Site Sample (dissolved)	Water	Low	12/09/2013 10:30
	CL-19	201150628	Site Sample (dissolved)	Water	Low	12/09/2013 11:05
	(b) (6) WELL	201150629	Site Sample	Water	Low	12/09/2013 11:25
	WW-04	201150630	Site Sample	Water	Low	12/09/2013 11:40
	BC-07	201150631	Site Sample	Water	Low	12/09/2013 13:16
	DUPLICATE #1	201150632	Field Duplicate	Water	Low	12/09/2013 13:16
	DW-04	201150633	Site Sample	Water	Low	12/09/2013 13:43
	BC-19	201150634	Site Sample	Water	Low	12/09/2013 14:32
	BB-01	201150636	Site Sample	Water	Low	12/09/2013 15:00
	SOUTH WELL	201150637	Site Sample	Water	Low	12/09/2013 15:15
	BC-17	201150638	Site Sample	Water	Low	12/09/2013 15:55
	NORTH WELL	201150639	Site Sample	Water	Low	12/09/2013 16:00
	BC-21R	201150640	Site Sample	Water	Low	12/09/2013 16:28
	DUPLICATE #2	201150641	Field Duplicate	Water	Low	12/09/2013 16:28
	BC-25	201150642	Site Sample	Water	Low	12/10/2013 9:13
	MW-03	201150643	Site Sample	Water	Low	12/10/2013 9:46
	MW-06	201150644	Site Sample	Water	Low	12/10/2013 10:23
	GSGP-18	201150645	Site Sample (dissolved)	Water	Low	12/10/2013 10:50
	GSGP-19	201150646	Site Sample	Water	Low	12/10/2013 11:08
	BC-03	201150647	Site Sample	Water	Low	12/10/2013 13:09
	BA-01A	201150648	Site Sample	Water	Low	12/10/2013 13:40
	BA-01	201150649	Site Sample	Water	Low	12/10/2013 14:23
	PW-04	201150650	Site Sample	Water	Low	12/10/2013 14:49
	GSGP-15	201150651	Site Sample (dissolved)	Water	Low	12/10/2013 15:36
	BA-05A	201150652	Site Sample	Water	Low	12/10/2013 16:33
	BA-05	201150653	Site Sample	Water	Low	12/10/2013 16:17
	DW-02	201150654	Site Sample	Water	Low	12/11/2013 8:13
	MW-A	201150655	Site Sample	Water	Low	12/11/2013 8:43
	DUPLICATE #3	201150656	Field Duplicate	Water	Low	12/11/2013 8:13
	BA-03A	201150657	Site Sample	Water	Low	12/11/2013 9:52
	BA-03	201150658	Site Sample	Water	Low	12/11/2013 9:18
	DW-01	201150659	Site Sample	Water	Low	12/11/2013 16:00
	MW-01	201150660	Site Sample	Water	Low	12/11/2013 16:31
	DUPLICATE #4	201150661	Field Duplicate	Water	Low	12/11/2013 16:31
	MW-02	201150662	Site Sample	Water	Low	12/11/2013 13:09
	TEPA-P10	201150663	Site Sample	Water	Low	12/11/2013 10:22
	TEPA-P9	201150664	Site Sample	Water	Low	12/11/2013 10:46
	TEPA-P7D	201150665	Site Sample (dissolved)	Water	Low	12/11/2013 14:00
	TEPA-P6	201150666	Site Sample	Water	Low	12/11/2013 13:52
	TEPA-1H	201150667	Site Sample	Water	Low	12/11/2013 14:53
	TEPA-6H	201150668	Site Sample	Water	Low	12/11/2013 15:16
	DW-03 (MS/MSD)	201150669	Site Sample	Water	Low	12/12/2013 9:06
	GSGP-22	201150670	Site Sample	Water	Low	12/12/2013 8:11
	BA-09A	201150671	Site Sample	Water	Low	12/12/2013 10:30
	BA-09	201150672	Site Sample	Water	Low	12/12/2013 11:23
	DUPLICATE #5	201150673	Field Duplicate	Water	Low	12/12/2013 11:23
	GSGP-06	201150674	Site Sample	Water	Low	12/12/2013 12:29
	MW-04	201150675	Site Sample (dissolved)	Water	Low	12/12/2013 12:59
	WW-09	201150676	Site Sample	Water	Low	12/12/2013 13:10
	GSGP-01 (03)	201150677	Site Sample	Water	Low	12/12/2013 14:21
	TEPA-9H (9G)	201150678	Site Sample	Water	Low	12/12/2013 14:48

**Conventionals**

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rptDV\_CrossRef

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**E1 - Sample Identification Cross-Reference Table**

Site Samples Sorted by Fraction

Delatte Metals

20162962

Lab: **PACE / PACE**SDG ID: **20162962**

Fraction	Client Sample	Lab Sample	Sample Type	Matrix	Level	Sampling Date/Time
	DW-04	201150633	Site Sample	Water	Low	12/09/2013 13:43
	DW-01	201150659	Site Sample	Water	Low	12/11/2013 16:00
	MW-01	201150660	Site Sample	Water	Low	12/11/2013 16:31
	DUPLICATE #4	201150661	Field Duplicate	Water	Low	12/11/2013 16:31
	MW-02	201150662	Site Sample	Water	Low	12/11/2013 13:09
	TEPA-P10	201150663	Site Sample	Water	Low	12/11/2013 10:22
	TEPA-P9	201150664	Site Sample	Water	Low	12/11/2013 10:46
	TEPA-P7D	201150665	Site Sample	Water	Low	12/11/2013 14:00
	TEPA-P6	201150666	Site Sample	Water	Low	12/11/2013 13:52
	TEPA-1H	201150667	Site Sample	Water	Low	12/11/2013 14:53
	TEPA-6H	201150668	Site Sample	Water	Low	12/11/2013 15:16
	DW-03 (MS/MSD)	201150669	Site Sample	Water	Low	12/12/2013 9:06
	GSGP-22	201150670	Site Sample	Water	Low	12/12/2013 8:11
	BA-09	201150672	Site Sample	Water	Low	12/12/2013 11:23
	DUPLICATE #5	201150673	Field Duplicate	Water	Low	12/12/2013 11:23
	TEPA-9H (9G)	201150678	Site Sample	Water	Low	12/12/2013 14:48

# Metal Results

Delatte Metals  
20162962

Client Sample ID: **CA-51** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample (dissolved)** % Solids: **NA** SDG ID: **20162962**  
Lab Sample ID: **201150624** Sampling Date/Time: **12/09/2013 9:15** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.97	µg/L
7440-38-2	Arsenic, Dissolved	6020	1	1	1.32	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	1 U	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	3.45	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	70.6	µg/L
7439-96-5	Manganese	6020	1	1	137	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	1.09	µg/L
7440-02-0	Nickel	6020	1	1	2.41	µg/L
7440-66-6	Zinc	6020	1	5	24.8	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	5.89	µg/L

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rptDV\_Form4\_M

**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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# Metal Results

Delatte Metals  
20162962

Client Sample ID: **CA-41** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample (dissolved)** % Solids: **NA** SDG ID: **20162962**  
Lab Sample ID: **201150625** Sampling Date/Time: **12/09/2013 9:30** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic, Dissolved	6020	1	1	1.36	µg/L
7440-38-2	Arsenic	6020	1	1	1.9	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	3.29	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	130	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	69.5	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	1.09	µg/L
7440-02-0	Nickel	6020	1	1	2.19	µg/L
7440-66-6	Zinc	6020	1	5	28.3	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	6.2	µg/L

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rptDV\_Form4\_M

**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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# Metal Results

Delatte Metals  
20162962

Client Sample ID: **BRIDGE** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample (dissolved)** % Solids: **NA** SDG ID: **20162962**  
Lab Sample ID: **201150626** Sampling Date/Time: **12/09/2013 9:45** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.85	µg/L
7440-38-2	Arsenic, Dissolved	6020	1	1	1.26	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	3.36	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	1 U	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	56.2	µg/L
7439-96-5	Manganese	6020	1	1	120	µg/L
7440-02-0	Nickel	6020	1	1	2.22	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	1.13	µg/L
7440-66-6	Zinc	6020	1	5	29	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	12.4	µg/L

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rpIDV\_Form4\_M

**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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# Metal Results

Delatte Metals  
20162962

Client Sample ID: **CL-05** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample (dissolved)** % Solids: **NA** SDG ID: **20162962**  
Lab Sample ID: **201150627** Sampling Date/Time: **12/09/2013 10:30** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.15	µg/L
7440-38-2	Arsenic, Dissolved	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	11.2	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	6.69	µg/L
7439-96-5	Manganese	6020	1	1	300	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	243	µg/L
7440-02-0	Nickel	6020	1	1	4.82	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	4.09	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	40.1	µg/L
7440-66-6	Zinc	6020	1	5	49.5	µg/L

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rptDV\_Form4\_M

U - Non-detected

J - Estimated

R - Unusable

RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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**Metal Results****Delatte Metals**  
**20162962**Client Sample ID: **CL-19**  
Sample Type: **Site Sample (dissolved)**  
Lab Sample ID: **201150628**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/09/2013 11:05**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic, Dissolved	6020	1	1	1 U	µg/L
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1.82	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	1 U	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	41.8	µg/L
7439-96-5	Manganese	6020	1	1	41.3	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	1 U	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	5 U	µg/L
7440-66-6	Zinc	6020	1	5	5.36	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc



**Metal Results****Delatte Metals**  
**20162962**Client Sample ID: (b) (6) WELL  
Sample Type: Site Sample (total)  
Lab Sample ID: 201150629Matrix: Water  
% Solids: NA  
Sampling Date/Time: 12/09/2013 11:25Lab ID: PACE  
SDG ID: 20162962  
SDG Page: 0

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.57	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1.45	µg/L
7439-96-5	Manganese	6020	1	1	23.3	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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rptDV\_Form4\_M

U - Non-detected

J - Estimated

R - Unusable

RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>WW-04</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150630</b>	Sampling Date/Time: <b>12/09/2013 11:40</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	3.15	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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rpIDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>BC-07</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150631</b>	Sampling Date/Time: <b>12/09/2013 13:16</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.08	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	38.7	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**Client Sample ID: **DUPLICATE #1**  
Sample Type: **Field Duplicate (total)**  
Lab Sample ID: **201150632**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/09/2013 13:16**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.12	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	40.1	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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rplDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **DW-04**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample (total)**% Solids: **NA**SDG ID: **20162962**Lab Sample ID: **201150633**Sampling Date/Time: **12/09/2013 13:43**SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	2.68	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	51.7	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5.49	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**Client Sample ID: **BC-19**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample (total)**% Solids: **NA**SDG ID: **20162962**Lab Sample ID: **201150634**Sampling Date/Time: **12/09/2013 14:32**SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	22.6	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>BB-01</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150636</b>	Sampling Date/Time: <b>12/09/2013 15:00</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	4.73	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	5.31	µg/L
7439-96-5	Manganese	6020	1	1	3.1	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **SOUTH WELL**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150637**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/09/2013 15:15**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	3.85	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	14.4	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
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**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>BC-17</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150638</b>	Sampling Date/Time: <b>12/09/2013 15:55</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.83	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	66.3	µg/L
7439-96-5	Manganese	6020	1	1	288	µg/L
7440-02-0	Nickel	6020	1	1	1.16	µg/L
7440-66-6	Zinc	6020	1	5	6.36	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **NORTH WELL**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150639**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/09/2013 16:00**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	3.66	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **BC-21R**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150640**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/09/2013 16:28**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	72.6	µg/L
7440-02-0	Nickel	6020	1	1	1.38	µg/L
7440-66-6	Zinc	6020	1	5	5.28	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**Client Sample ID: **DUPLICATE #2**  
Sample Type: **Field Duplicate (total)**  
Lab Sample ID: **201150641**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/09/2013 16:28**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	77.8	µg/L
7440-02-0	Nickel	6020	1	1	1.5	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>BC-25</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150642</b>	Sampling Date/Time: <b>12/10/2013 9:13</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	183	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>MW-03</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150643</b>	Sampling Date/Time: <b>12/10/2013 9:46</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	816	µg/L
7440-02-0	Nickel	6020	1	1	1.28	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>MW-06</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150644</b>	Sampling Date/Time: <b>12/10/2013 10:23</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	2.12	µg/L
7440-43-9	Cadmium	6020	1	1	52.7	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	2,580	µg/L
7440-02-0	Nickel	6020	1	1	26	µg/L
7440-66-6	Zinc	6020	1	5	85.6	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**

Delatte Metals  
20162962

Client Sample ID: <b>GSGP-18</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (dissolved)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150645</b>	Sampling Date/Time: <b>12/10/2013 10:50</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	9.18	µg/L
7440-38-2	Arsenic, Dissolved	6020	1	1	1.83	µg/L
7440-43-9	Cadmium	6020	1	1	44.1	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	117	µg/L
7439-92-1	Lead	6020	1	1	70.3	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	10.4	µg/L
7439-96-5	Manganese	6020	1	1	6,000	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	2,460	µg/L
7440-02-0	Nickel	6020	1	1	116	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	61.6	µg/L
7440-66-6	Zinc	6020	1	5	320	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	267	µg/L

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**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>GSGP-19</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150646</b>	Sampling Date/Time: <b>12/10/2013 11:08</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	6.26	µg/L
7440-43-9	Cadmium	6020	1	1	55.3	µg/L
7439-92-1	Lead	6020	1	1	1.75	µg/L
7439-96-5	Manganese	6020	1	1	2,100	µg/L
7440-02-0	Nickel	6020	1	1	46.2	µg/L
7440-66-6	Zinc	6020	1	5	149	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>BC-03</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150647</b>	Sampling Date/Time: <b>12/10/2013 13:09</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	16.6	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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U - Non-detected

J - Estimated

R - Unusable

RL - Reporting limit

B - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **BA-01A**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150648**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/10/2013 13:40**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	7.93	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	24.3	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>BA-01</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150649</b>	Sampling Date/Time: <b>12/10/2013 14:23</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.38	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	1,030	µg/L
7440-02-0	Nickel	6020	1	1	21.5	µg/L
7440-66-6	Zinc	6020	1	5	23.2	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>PW-04</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150650</b>	Sampling Date/Time: <b>12/10/2013 14:49</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	3.08	µg/L
7440-43-9	Cadmium	6020	1	1	1.25	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	987	µg/L
7440-02-0	Nickel	6020	1	1	20.2	µg/L
7440-66-6	Zinc	6020	1	5	52.8	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

# Metal Results

Delatte Metals  
20162962

Client Sample ID: **GSGP-15** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample (dissolved)** % Solids: **NA** SDG ID: **20162962**  
Lab Sample ID: **201150651** Sampling Date/Time: **12/10/2013 15:36** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic, Dissolved	6020	1	1	8.1	µg/L
7440-38-2	Arsenic	6020	1	1	8.32	µg/L
7440-43-9	Cadmium	6020	1	1	6.6	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	6.28	µg/L
7439-92-1	Lead	6020	1	1	2.64	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	2.14	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	786	µg/L
7439-96-5	Manganese	6020	1	1	808	µg/L
7440-02-0	Nickel	6020	1	1	29.4	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	28.6	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	62.6	µg/L
7440-66-6	Zinc	6020	1	5	62.8	µg/L

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**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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**Metal Results**Delatte Metals  
20162962Client Sample ID: **BA-05A**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150652**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/10/2013 16:33**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.9	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	23.4	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	7.99	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>BA-05</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150653</b>	Sampling Date/Time: <b>12/10/2013 16:17</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.62	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	13,300 E	µg/L
7440-02-0	Nickel	6020	1	1	39.3	µg/L
7440-66-6	Zinc	6020	1	5	6.4	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc



**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>DW-02</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150654</b>	Sampling Date/Time: <b>12/11/2013 8:13</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	14.4	µg/L
7440-43-9	Cadmium	6020	1	1	18.4	µg/L
7439-92-1	Lead	6020	1	1	15.4	µg/L
7439-96-5	Manganese	6020	1	1	7,570	µg/L
7440-02-0	Nickel	6020	1	1	292	µg/L
7440-66-6	Zinc	6020	1	5	598	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>MW-A</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150655</b>	Sampling Date/Time: <b>12/11/2013 8:43</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	8.79	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**Client Sample ID: **DUPLICATE #3**  
Sample Type: **Field Duplicate (total)**  
Lab Sample ID: **201150656**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/11/2013 8:13**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	14.4	µg/L
7440-43-9	Cadmium	6020	1	1	17.6	µg/L
7439-92-1	Lead	6020	1	1	14.7	µg/L
7439-96-5	Manganese	6020	1	1	7,740	µg/L
7440-02-0	Nickel	6020	1	1	295	µg/L
7440-66-6	Zinc	6020	1	5	607	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RL.TerraBase®  
TerraBase Inc

# Metal Results

Delatte Metals  
20162962

Client Sample ID: **BA-03A** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample (total)** % Solids: **NA** SDG ID: **20162962**  
Lab Sample ID: **201150657** Sampling Date/Time: **12/11/2013 9:52** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1.14	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1.33	µg/L
7439-96-5	Manganese	6020	1	1	52.7	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	6.4	µg/L

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**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **BA-03**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150658**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/11/2013 9:18**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	2.08	µg/L
7440-43-9	Cadmium	6020	1	1	108	µg/L
7439-92-1	Lead	6020	1	1	104	µg/L
7439-96-5	Manganese	6020	1	1	2,390	µg/L
7440-02-0	Nickel	6020	1	1	61.8	µg/L
7440-66-6	Zinc	6020	1	5	253	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **DW-01**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample (total)**% Solids: **NA**SDG ID: **20162962**Lab Sample ID: **201150659**Sampling Date/Time: **12/11/2013 16:00**SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	128	µg/L
7440-43-9	Cadmium	6020	1	1	3.33	µg/L
7439-92-1	Lead	6020	1	1	1.13	µg/L
7439-96-5	Manganese	6020	1	1	1,330	µg/L
7440-02-0	Nickel	6020	1	1	11.4	µg/L
7440-66-6	Zinc	6020	1	5	40.1	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>MW-01</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150660</b>	Sampling Date/Time: <b>12/11/2013 16:31</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	18	µg/L
7440-43-9	Cadmium	6020	1	1	9.79	µg/L
7439-92-1	Lead	6020	1	1	12.3	µg/L
7439-96-5	Manganese	6020	1	1	4,870	µg/L
7440-02-0	Nickel	6020	1	1	155	µg/L
7440-66-6	Zinc	6020	1	5	146	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **DUPLICATE #4**  
Sample Type: **Field Duplicate (total)**  
Lab Sample ID: **201150661**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/11/2013 16:31**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	16.8	µg/L
7440-43-9	Cadmium	6020	1	1	3.7	µg/L
7439-92-1	Lead	6020	1	1	5.52	µg/L
7439-96-5	Manganese	6020	1	1	4,880	µg/L
7440-02-0	Nickel	6020	1	1	157	µg/L
7440-66-6	Zinc	6020	1	5	140	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc



**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>MW-02</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150662</b>	Sampling Date/Time: <b>12/11/2013 13:09</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	510	µg/L
7439-92-1	Lead	6020	1	1	31.6	µg/L
7439-96-5	Manganese	6020	1	1	663	µg/L
7440-02-0	Nickel	6020	1	1	98.7	µg/L
7440-66-6	Zinc	6020	1	5	447	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **TEPA-P10**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150663**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/11/2013 10:22**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	3.63	µg/L
7440-43-9	Cadmium	6020	1	1	151	µg/L
7439-92-1	Lead	6020	1	1	134	µg/L
7439-96-5	Manganese	6020	1	1	3,340	µg/L
7440-02-0	Nickel	6020	1	1	78.4	µg/L
7440-66-6	Zinc	6020	1	5	311	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>TEPA-P9</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150664</b>	Sampling Date/Time: <b>12/11/2013 10:46</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	2.37	µg/L
7440-43-9	Cadmium	6020	1	1	136	µg/L
7439-92-1	Lead	6020	1	1	2.9	µg/L
7439-96-5	Manganese	6020	1	1	2,180	µg/L
7440-02-0	Nickel	6020	1	1	49.1	µg/L
7440-66-6	Zinc	6020	1	5	214	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RL

TerraBase®

TerraBase Inc

# Metal Results

Delatte Metals  
20162962

Client Sample ID: **TEPA-P7D**  
Sample Type: **Site Sample (dissolved)**  
Lab Sample ID: **201150665**

Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/11/2013 14:00**

Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	3.84	µg/L
7440-38-2	Arsenic, Dissolved	6020	1	1	1 U	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	113	µg/L
7440-43-9	Cadmium	6020	1	1	37.6	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	3.55	µg/L
7439-92-1	Lead	6020	1	1	13.5	µg/L
7439-96-5	Manganese	6020	1	1	1,340	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	1,910	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	44.5	µg/L
7440-02-0	Nickel	6020	1	1	25.3	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	187	µg/L
7440-66-6	Zinc	6020	1	5	80.4	µg/L

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rptDV\_Form4\_M

**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>TEPA-P6</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150666</b>	Sampling Date/Time: <b>12/11/2013 13:52</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	6.98	µg/L
7440-43-9	Cadmium	6020	1	1	171	µg/L
7439-92-1	Lead	6020	1	1	80.5	µg/L
7439-96-5	Manganese	6020	1	1	2,660	µg/L
7440-02-0	Nickel	6020	1	1	69	µg/L
7440-66-6	Zinc	6020	1	5	333	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **TEPA-1H**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150667**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/11/2013 14:53**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	20.1	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	3,200	µg/L
7440-02-0	Nickel	6020	1	1	4.67	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **TEPA-6H**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150668**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/11/2013 15:16**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	11.6	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	3,600	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **DW-03 (MS/MSD)**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150669**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/12/2013 9:06**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	11	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	7.64	µg/L
7439-96-5	Manganese	6020	1	1	1,410	µg/L
7440-02-0	Nickel	6020	1	1	42.9	µg/L
7440-66-6	Zinc	6020	1	5	56.6	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc



**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>GSGP-22</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150670</b>	Sampling Date/Time: <b>12/12/2013 8:11</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	14.6	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	10	10	16,800	µg/L
7440-02-0	Nickel	6020	1	1	296	µg/L
7440-66-6	Zinc	6020	1	5	70	µg/L

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rptDV\_Form4\_M

U - Non-detected

J - Estimated

R - Unusable

RL - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>BA-09A</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150671</b>	Sampling Date/Time: <b>12/12/2013 10:30</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	2.28	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	33.5	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962

Client Sample ID: <b>BA-09</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150672</b>	Sampling Date/Time: <b>12/12/2013 11:23</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	11.9	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	1,670	µg/L
7440-02-0	Nickel	6020	1	1	82.7	µg/L
7440-66-6	Zinc	6020	1	5	109	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **DUPLICATE #5**  
Sample Type: **Field Duplicate (total)**  
Lab Sample ID: **201150673**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/12/2013 11:23**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	11.8	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	1,650	µg/L
7440-02-0	Nickel	6020	1	1	81.8	µg/L
7440-66-6	Zinc	6020	1	5	107	µg/L

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**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>GSGP-06</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150674</b>	Sampling Date/Time: <b>12/12/2013 12:29</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	5.64	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	3,520	µg/L
7440-02-0	Nickel	6020	1	1	374	µg/L
7440-66-6	Zinc	6020	1	5	124	µg/L

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rplDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

# Metal Results

Delatte Metals  
20162962

Client Sample ID: **MW-04** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample (dissolved)** % Solids: **NA** SDG ID: **20162962**  
Lab Sample ID: **201150675** Sampling Date/Time: **12/12/2013 12:59** SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic, Dissolved	6020	1	1	1 U	µg/L
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium, Dissolved	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1.42	µg/L
7439-92-1	Lead, Dissolved	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	19.9	µg/L
7439-96-5	Manganese, Dissolved	6020	1	1	1 U	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-02-0	Nickel, Dissolved	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5.75	µg/L
7440-66-6	Zinc, Dissolved	6020	1	5	5 U	µg/L

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**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - (Lab qualifier) Analyte detected between the instrument detection limit (IDL) and the RL

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**Metal Results****Delatte Metals**  
**20162962**

Client Sample ID: <b>WW-09</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample (total)</b>	% Solids: <b>NA</b>	SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150676</b>	Sampling Date/Time: <b>12/12/2013 13:10</b>	SDG Page: <b>0</b>

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	1 U	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	17.8	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5 U	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

**Metal Results**Delatte Metals  
20162962Client Sample ID: **GSGP-01 (03)**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150677**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/12/2013 14:21**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	3.25	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	747	µg/L
7440-02-0	Nickel	6020	1	1	1 U	µg/L
7440-66-6	Zinc	6020	1	5	5.97	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc



**Metal Results**Delatte Metals  
20162962Client Sample ID: **TEPA-9H (9G)**  
Sample Type: **Site Sample (total)**  
Lab Sample ID: **201150678**Matrix: **Water**  
% Solids: **NA**  
Sampling Date/Time: **12/12/2013 14:48**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Method	D/F	RL	Lab Result	Units
7440-38-2	Arsenic	6020	1	1	18.9	µg/L
7440-43-9	Cadmium	6020	1	1	1 U	µg/L
7439-92-1	Lead	6020	1	1	1 U	µg/L
7439-96-5	Manganese	6020	1	1	7,380	µg/L
7440-02-0	Nickel	6020	1	1	113	µg/L
7440-66-6	Zinc	6020	1	5	185	µg/L

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rptDV\_Form4\_M

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - (Lab qualifier) Analyte detected between the instrument  
detection limit (IDL) and the RLTerraBase®  
TerraBase Inc

# Conventional Results

Delatte Metals  
20162962

Client Sample ID: **DW-04** Matrix: **Water** Lab ID: **PACE**  
Sample Type: **Site Sample** SDG ID: **20162962**  
Lab Sample ID: **201150633** SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/09/2013 13:43	ASTM D516-90	1	1	6.88	mg/L
18496-25-8	Sulfide	12/09/2013 13:43	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected  
**J** - Estimated  
**R** - Unusable  
**RL** - Reporting limit

**B** - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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**Conventional Results****Delatte Metals**  
**20162962**Client Sample ID: **DW-01**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample**SDG ID: **20162962**Lab Sample ID: **201150659**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 16:00	ASTM D516-90	50	50	571	mg/L
18496-25-8	Sulfide	12/11/2013 16:00	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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**Conventional Results**Delatte Metals  
20162962Client Sample ID: **MW-01**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample**SDG ID: **20162962**Lab Sample ID: **201150660**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 16:31	ASTM D516-90	100	100	3,660	mg/L
18496-25-8	Sulfide	12/11/2013 16:31	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_FormI\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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**Conventional Results****Delatte Metals**  
**20162962**Client Sample ID: **DUPLICATE #4**  
Sample Type: **Field Duplicate**  
Lab Sample ID: **201150661**Matrix: **Water**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 16:31	ASTM D516-90	500	500	5,370	mg/L
18496-25-8	Sulfide	12/11/2013 16:31	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_FormI\_C**U** - Non-detected  
**J** - Estimated  
**R** - Unusable  
**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)TerraBase®  
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**Conventional Results****Delatte Metals**  
**20162962**Client Sample ID: **MW-02**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample**SDG ID: **20162962**Lab Sample ID: **201150662**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 13:09	ASTM D516-90	10	10	332	mg/L
18496-25-8	Sulfide	12/11/2013 13:09	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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# Conventional Results

Delatte Metals  
20162962

Client Sample ID: **TEPA-P10**  
Sample Type: **Site Sample**  
Lab Sample ID: **201150663**

Matrix: **Water**

Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 10:22	ASTM D516-90	50	50	1,040	mg/L
18496-25-8	Sulfide	12/11/2013 10:22	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_FormI\_C

**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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# Conventional Results

Delatte Metals  
20162962

Client Sample ID: **TEPA-P9**  
Sample Type: **Site Sample**  
Lab Sample ID: **201150664**

Matrix: **Water**

Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 10:46	ASTM D516-90	50	50	530	mg/L
18496-25-8	Sulfide	12/11/2013 10:46	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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**Conventional Results****Delatte Metals  
20162962****Client Sample ID: TEPA-P7D**  
**Sample Type: Site Sample**  
**Lab Sample ID: 201150665****Matrix: Water****Lab ID: PACE**  
**SDG ID: 20162962**  
**SDG Page: 0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 14:00	ASTM D516-90	50	50	694	mg/L
18496-25-8	Sulfide	12/11/2013 14:00	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)TerraBase®  
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**Conventional Results**Delatte Metals  
20162962Client Sample ID: **TEPA-P6**  
Sample Type: **Site Sample**  
Lab Sample ID: **201150666**Matrix: **Water**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 13:52	ASTM D516-90	50	50	783	mg/L
18496-25-8	Sulfide	12/11/2013 13:52	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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**Conventional Results****Delatte Metals  
20162962**Client Sample ID: **TEPA-1H**  
Sample Type: **Site Sample**  
Lab Sample ID: **201150667**Matrix: **Water**Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 14:53	ASTM D516-90	10	10	365	mg/L
18496-25-8	Sulfide	12/11/2013 14:53	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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**Conventional Results**Delatte Metals  
20162962

Client Sample ID: <b>TEPA-6H</b>	Matrix: <b>Water</b>	Lab ID: <b>PACE</b>
Sample Type: <b>Site Sample</b>		SDG ID: <b>20162962</b>
Lab Sample ID: <b>201150668</b>		SDG Page: <b>0</b>

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/11/2013 15:16	ASTM D516-90	50	50	997	mg/L
18496-25-8	Sulfide	12/11/2013 15:16	SM 4500-S D	1	0.1	0.1 U	mg/L

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rptGeneral\_Form1\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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**Conventional Results**Delatte Metals  
20162962Client Sample ID: **DW-03 (MS/MSD)**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample**SDG ID: **20162962**Lab Sample ID: **201150669**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/12/2013 9:06	ASTM D516-90	50	50	481	mg/L
18496-25-8	Sulfide	12/12/2013 9:06	SM 4500-S D	1	0.1	0.897	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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**Conventional Results**Delatte Metals  
20162962Client Sample ID: **GSGP-22**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample**SDG ID: **20162962**Lab Sample ID: **201150670**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/12/2013 8:11	ASTM D516-90	500	500	5,880	mg/L
18496-25-8	Sulfide	12/12/2013 8:11	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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**Conventional Results**Delatte Metals  
20162962Client Sample ID: **BA-09**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample**SDG ID: **20162962**Lab Sample ID: **201150672**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/12/2013 11:23	ASTM D516-90	50	50	1,220	mg/L
18496-25-8	Sulfide	12/12/2013 11:23	SM 4500-S D	1	0.1	0.544	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)

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# Conventional Results

Delatte Metals  
20162962

Client Sample ID: **DUPLICATE #5**  
Sample Type: **Field Duplicate**  
Lab Sample ID: **201150673**

Matrix: **Water**

Lab ID: **PACE**  
SDG ID: **20162962**  
SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/12/2013 11:23	ASTM D516-90	50	50	1,510	mg/L
18496-25-8	Sulfide	12/12/2013 11:23	SM 4500-S D	1	0.1	0.712	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected

**J** - Estimated

**R** - Unusable

**RL** - Reporting limit

**B** - Analyte detected between the method detection limit (MDL) and the reporting limit (RL)

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**Conventional Results****Delatte Metals**  
**20162962**Client Sample ID: **TEPA-9H (9G)**Matrix: **Water**Lab ID: **PACE**Sample Type: **Site Sample**SDG ID: **20162962**Lab Sample ID: **201150678**SDG Page: **0**

CAS Number	Analyte Name	Sampling D/T	Method	D/F	RL	Lab Result	Units
14808-79-8	Sulfate	12/12/2013 14:48	ASTM D516-90	500	500	6,420	mg/L
18496-25-8	Sulfide	12/12/2013 14:48	SM 4500-S D	1	0.02	0.02 U	mg/L

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rptGeneral\_Form4\_C

**U** - Non-detected**J** - Estimated**R** - Unusable**RL** - Reporting limit**B** - Analyte detected between the method detection  
limit (MDL) and the reporting limit (RL)TerraBase®  
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**ATTACHMENT E**  
**LEVEL IV DATA PACKAGE**  
**(CD ATTACHED)**